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# Journal of Personality Assessment

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# Journal of Personality Assessment

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# **The Society For Personality Assessment, Inc. Announces Its 1978 Program**

**International Inn — March 20-April 1 — Tampa, Florida**

**WORKSHOP SEGMENT** (1:00 p.m. March 30 to 12:00 noon March 31)

Each workshop will have limited enrollment and requires pre-registration. Fees are \$30 for full-time graduate students and interns, \$40 for SPA members, and \$60 for non-members.

## **Workshop I:**

**The Rorschach Comprehensive System in Clinical Practice**

*Leaders:*

John E. Exner, Long Island University

Irving B. Weiner, Case Western Reserve University

## **Workshop II:**

**The Joint Feedback Technique: A New Model for the Integration of  
Assessment Findings Into the Treatment Process**

*Leaders:*

Richard H. Dana, University of Arkansas

S. Philip Erdberg, Greenbrae, California

Peter J. Walsh, Greenbrae, California

## **Workshop III:**

**The Problem Oriented Medical Record and the Assessment of the Child**

*Leader:*

Shawn Cooper, Emma Pendleton Bradley Hospital

**PLENARY SESSION** (1:00 p.m. March 31 to 5:00 p.m. April 1)

Open to professional public. Registration fee of \$5 for SPA members, \$10 for non-members.

## **Invited Addresses:**

Theodore H. Blau, Tampa, Florida — *Personality assessment and social indicators: A coming of age*

W. Grant Dahlstrom, U. North Carolina — *The role of personological taxonomies in personality assessment*

Raymond D. Fowler, U. Alabama — *The current status of automated interpretation of the MMPI*

Zygmunt A. Piotrowski, Philadelphia, Pennsylvania — *The meaning of the Rorschach M response*

Charles D. Spielberger, U. South Florida — *The nature and measurement of anxiety*

Symposia and papers on selected topics in personality assessment.

The meeting is cosponsored by the University of South Florida and the Florida Psychological Association. Registration forms, programs, and information on accommodations are available from:

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## The Status of Psychological Testing in Clinical Psychology: Relationships Between Test Use and Professional Activities and Orientations

TERRY C. WADE, TIMOTHY B. BAKER,  
TERU L. MORTON, and LINDA J. BAKER  
University of Utah

**Summary:** A survey of clinical psychologists determined that both objective and projective tests were used with high frequency. The two tests clinicians most frequently recommended clinical students learn to administer were projective (the Rorschach and the TAT) and, among the 10 most frequently recommended tests, projective tests were recommended approximately 30% more often than objective tests. Clinicians who were frequent test users recommended both objective and projective tests more often than those not using tests. Clinicians doing substantial teaching and research tended to recommend projective tests less often than clinicians not engaged in those activities. Behavior therapists recommended projective tests less often than eclectic, Freudian, and neo-Freudian therapists.

New therapy and assessment techniques, research discoveries, and changes in the status of clinical psychology have all prompted periodic surveys of the practice and opinions of clinical psychologists (Garfield & Kurtz, 1973, 1975; Goldschmid, Stein, Weisman & Sorrels, 1969; Johnson & Bornstein, 1974; Kelly, 1961; Lubin, 1962; McCully, 1965). One area that receives continued interest is assessment through psychological testing. Several surveys found a general decline in emphasis on testing in clinical psychology training programs, and a shift from projective-to objective testing (Shemberg & Keeley, 1970; Thelen & Ewing, 1970; Thelen, Varble, & Johnson, 1968). On the other hand, agency administrators have reported continued use of a wide variety of tests (Lubin, Wallis & Paine, 1971; Sundberg, 1961), and the great majority of applied positions for clinical psychologists apparently require testing skills (Levy & Fox, 1975).

Despite continued interest in the status of psychological testing in clinical practice, little recent information has been obtained from clinical psychologists concerning their actual test use. One aim of this study was to determine if clinicians continue to advocate tests they reported using in the past (Sundberg, 1961). Also, clinicians' test preferences might have changed because of research findings

(Chapman & Chapman, 1971), the development of different assessment approaches (e.g., Bersoff, 1973; Goldfried & Kent, 1972), or changing assessment needs. The recent emphasis on community psychology, for instance, might have affected the clinician's role in the assessment process. Additional aims of this study were to determine which professional and occupational characteristics covary with test usage and opinions.

For these purposes, data were obtained in a national survey of clinical psychologists (Baker & Wade, Note 1; Wade & Baker, in press). While those papers explored a wide variety of issues related to clinical practice, this report presents a more detailed analysis of the relationships between clinicians' use of psychological tests and their occupational specializations and therapeutic orientations.

### The Survey

A six-page questionnaire was mailed to approximately every seventh member of the APA ( $n = 500$ ) listed in Division 12, Clinical Psychology, in the *Biographical Directory of the American Psychological Association* (1974). The return rate of the 471 deliverable questionnaire was 50.1%. This return rate is comparable to that obtained from a survey by Lubin et al. (1971) which employed a sample of the same size. Other surveys using shorter questionnaires enjoyed somewhat larger return rates (Sundberg, 1961; Thelen et



Table 1

Percent of Time Spent by  
Clinical Psychologists  
in Occupational Specializations

Specialization	% Time
Private therapy	22.0
Teaching	18.0
Public therapy	13.8
Agency administration	11.9
Research	10.3
Academic administration	5.2

*Note.* Based on  $n = 239$ . Although the categories of occupational specialization presented to respondents in the present survey were different from those in a survey of the same population reported by Garfield and Kurtz (1976), the results are quite comparable. For example, the total time reported spent in the four overlapping therapy related activities in the Garfield and Kurtz survey was 41.2% compared to 35.8% reported spent in the two independent categories of private and public therapy in the present survey. Clinicians reported spending 13.8% of their time in teaching and 7.0% of their time in research in the Garfield and Kurtz survey, while the respective figures for this survey are 18.0% and 10.3%.

al., 1968).

Checks on the representativeness of the sample were made through comparisons with a recent survey by Garfield and Kurtz (1976) which sampled a larger number of clinical psychologists from the same population. In addition to highly similar geographical distributions of respondents in the two surveys, reported in detail elsewhere (Baker & Wade, Note 1), respondents' occupational specializations and therapeutic orientations were also quite similar (see Tables 1 and 2). Thus, while the return rate obtained could bias results, several indicators reflect the representativeness of the respondents.

Table 2

Predominant Therapeutic Orientations

Orientation	<i>n</i>	%
Behavior therapy	30	12.6
Client-centered	14	5.9
Communications	9	3.8
Eclectic	44	18.4
Freudian	26	10.9
Humanistic	10	4.2
Neo-Freudian	50	20.9
Reality therapy	15	6.3
Others	15	6.3
Total	239	100.0

*Note.* Based on pilot study findings, seven therapeutic orientations were presented for respondents to select from (behavior therapy, client-centered, Gestalt, Freudian, neo-Freudian, transactional analysis, and reality therapy) along with an open category to write in other orientations. Because the majority of respondents in the pilot survey indicated their orientations as eclectic when that category was provided, an eclectic category was not provided in the present survey in hopes of obtaining finer discriminations; 26 respondents failed to list an orientation.

The pattern of orientations is similar to the findings of the Garfield and Kurtz (1976) survey, with several exceptions. In that survey, an eclectic category was provided as an option and was selected by most of the respondents. In the present survey, only 18.4% of respondents designated themselves as eclectic. Compared to Garfield and Kurtz, a much larger percentage of our respondents selected neo-Freudian orientations (20.9% as opposed to 5.3% in the Garfield and Kurtz sample), which suggests neo-Freudians are likely to select an eclectic category if given that option.



Table 3  
Testing Activities of  
Clinical Psychologists

Measures	Activities	
	Objective Testing	Projective Testing
Percent of time spent	7.1	7.4
Number of tests/week <sup>a</sup>	5.6	2.6
Percentage of clients <sup>b</sup>	35.0	20.5

<sup>a</sup> $t(212) = 3.80, p < .001$ .

<sup>b</sup> $t(212) = 6.19, p < .001$ .

#### Frequency of Test Use

Several questions asked respondents to indicate: (a) the percentage of their professional time spent in testing, (b) the number of tests they administered each week, and (c) the percentage of clients administered tests. Table 3 shows that actual test use by clinicians is substantial. More than one-third of clients are administered objective tests and over one-fifth are administered projective tests. Although the time spent in objective and projective testing does not differ significantly, both the number of tests administered each week and the percentage of clients administered tests are greater for objective than for projective tests.

#### Occupational Specializations and Therapeutic Orientations

Respondents were also asked to indicate the approximate percentage of time they devoted to various professional activities and to list their predominant therapeutic orientation. The percentage of time spent in the six predominant occupational specializations reported are presented in Table 1 and the eight major therapeutic orientations reported are presented in Table 2. The representativeness of the sample with respect to

these dimensions is noted on the respective tables. As would be expected, respondents who spent more than the median amount of time in therapy also spent significantly more total time in testing,  $t(213) = 2.47, p < .02$ . However, the percentages of clients administered objective and projective tests did not differ significantly as functions of the total amount of time spent in therapy.

Because the percentages of time clinicians spent in private and public therapy were not highly related,  $r = -.32$ , those occupational specializations were considered separately. Respondents who spent more than the median amount of time in public therapy used significantly more time in testing,  $t(213) = 2.08, p < .05$ . Such a difference was not found with respect to private therapy. Also, while the percentages of clients given objective and projective tests did not differ according to time spent in public therapy, clinicians who spent less time in private therapy reported administering both objective,  $t(213) = 2.18, p < .05$ , and projective tests,  $t(213) = 2.05, p < .05$ , to greater percentages of their clients. In addition, respondents who spent less time in research spent more total time in testing,  $t(213) = 2.61, p < .01$ . This difference was attributable to the finding that respondents who spent less time in research spent more time in projective,  $t(213) = 3.09, p < .01$ , but not objective testing.

When the time clinicians spent in testing was analyzed with respect to therapeutic orientations, a difference was found in the time spent in projective testing,  $F(7, 190) = 2.40, p < .05$ , but not in the time spent in objective testing. Newman-Keuls multiple comparison tests indicated that respondents with behavior therapy orientations spent less time in projective testing than other orientations,  $p < .05$ . Also examined were a priori hypotheses that eclectic therapists would use both objective and projective tests with high frequency, Freudian and neo-Freudian therapists would use primarily projective tests, and behavior therapists would not use either objective or projective tests. In general, these predictions were supported by the data. However, while behavior therapists used projective



Table 4

## Most Frequently Recommended Tests

Test	N
Rorschach Inkblot Test	137
Thematic Apperception Test	133
Wechsler Adult Intelligence Scale	103
Minnesota Multiphasic Personality Inventory	99
Bender-Gestalt Test	81
Wechsler Intelligence Scale for Children	79
Picture drawings	65
Sentence completion tests	51
Stanford-Binet	35
Halstead-Reitan	15

*Note.* Only the 10 most frequently recommended tests are listed. Among these, the frequencies of recommending the two most frequently recommended projective tests (the Rorschach and TAT) are significantly higher,  $p < .05$ , than the frequencies of recommending the two most frequently recommended objective tests (the WAIS and MMPI),  $X^2(1)$  ranging from 7.54 to 12.09.

tests significantly less than the other orientations,  $t(190) = 2.46, p < .05$ , they used objective tests at the same rate as eclectic therapists. Both behavior therapists,  $t(190) = 2.10, p < .05$ , and eclectic therapists,  $t(190) = 3.01, p < .01$ , used objective tests more than Freudian and neo-Freudian therapists.

#### Tests Recommended

In order to determine which tests clinicians considered important to clinical practice, they were asked to list tests they would recommend clinical psychology students learn. Table 4 presents tests recommended by 15 or more respondents.

The two most frequently recommended tests were both projective, the Rorschach and TAT. These tests were recommended significantly more often than the most frequently recommended objective tests, the WAIS and MMPI (see Table 4). Moreover, among the 10 most frequently recommended tests, projectives were recommended approximately 30% more often than objectives. This pattern of test recommendations shows surprisingly little variation from earlier surveys of test use (Lubin et al. 1971; Sundberg, 1961). To provide more detailed analyses of tests recommended, comparisons were made across reported test use, occupational specializations, and therapeutic orientations.

*Frequency of test use.* Because differences were found in the use of objective and projective tests (see Table 3), and the frequencies of using the two types of tests were not highly related,  $r = .35$ , the two types of test use were considered separately. To compare frequent and infrequent test users, respondents who constituted the top third in percentage of reported test use (high test users) were compared to those who reported not using tests with any clients or patients (low test users). Thus, four groups resulted: high and low objective test users and high and low projective test users. Comparisons of the frequencies of recommending the most frequently recommended tests (i.e., those with frequencies sufficiently large to permit meaningful comparisons) according to reported test use are presented in Table 5. As would be expected, high test users typically recommended tests more often. High objective test users tended to recommend objective tests more often than high projective test users and vice versa. However, despite findings that actual objective and projective test use are not highly related, both high objective and projective test users recommended *both* types of tests more often than low test users. Thus, it appears that frequent test use may result from an appreciation of the value of tests in general, rather than from attributes of particular tests. This hypothesis is supported by the finding that high test users tended to recommend all tests more often than low



Table 5

Percent of Clinicians Recommending Particular Tests:  
Responses of High and Low Frequency Test Users

Test	Objective Test Use		Projective Test Use	
	High	Low	High	Low
Rorschach	68.5	47.6	83.0	36.8
TAT	57.4	47.6	77.4	34.2
WAIS	57.4	27.0	64.2	31.6
MMPI	64.5	20.6	47.2	38.2
Bender-Gestalt	44.4	25.4	56.6	21.1
WISC	38.9	17.5	47.2	25.0
Picture drawings	27.8	22.2	39.6	17.1
Sentence completion	24.1	15.9	32.1	15.8
Stanford-Binet	35.9	9.5	30.2	11.8

*Note.* Only tests for which meaningful comparisons could be made are included. High test users are clinicians in the top third percentage of reported objective or projective test use. Low test users are those not using objective or projective tests with any of their clients. *Italicized values* for each type of test use differ significantly using chi-square with  $df=1$ ,  $p < .05$  or less.

test users. High projective test users, for instance, recommended eight of the nine most frequently recommended tests more often than low projective test users (see Table 5).

*Occupational specializations.* To compare the frequencies of test recommendation across occupational specializations, respondents who constituted the top third in percentages of time spent in various specializations relevant to test use (i.e., private and public therapy, agency administration, teaching, and research) were compared to those who reported not spending any time in those specializations. Thus, the recommendation of specific tests was considered in terms of high and low occupational specialization groups.

Surprisingly, few differences were evident. The frequencies of recommending all tests were relatively homogeneous

across the time spent in private and public therapy; i.e., no significant differences existed between respondents high and low in those specializations. The most consistent differences were that clinicians high in teaching or research tended to recommend projective tests significantly less often than clinicians not engaged in those activities,  $p < .05$ . Significant differences for teachers appeared in frequencies of recommending the Rorschach (54.1 vs. 73.7%),  $\chi^2(1) = 4.88$ , and the TAT (52.6 vs. 70.5%),  $\chi^2(1) = 4.53$ , while significant differences for researchers appeared in frequencies of recommending the Bender-Gestalt (22.8 vs. 42.4%),  $\chi^2(1) = 5.27$ , as well as the Rorschach (49.1 vs. 68.7%),  $\chi^2(1) = 5.05$ , and the TAT (43.8 vs. 62.6%),  $\chi^2(1) = 4.43$ . These differences in test recommendation by teachers and researchers were quite specific in that they occurred only with



regards to projective tests. In fact, clinicians performing a lot of research recommended the MMPI, an objective test, significantly more often than clinicians not performing research (56.1 vs. 38.4%),  $\chi^2(1) = 3.92$ .

Despite such findings, however, projective tests were recommended by academicians and researchers at a substantial rate. Approximately half of those clinicians who were among the top third in teaching and research activities, for example, recommended the Rorschach and TAT.

*Therapeutic orientations.* A final perspective on frequencies of recommending tests was provided by making comparisons across the most frequently reported therapeutic orientations. Significant differences were found with respect to four tests. Most differences stemmed from behavior therapists recommending the Bender-Gestalt, Rorschach, and TAT (13.3%, 20.0%, and 30.0%, respectively) less often than eclectic (39.5%, 60.5%, and 55.8%), Freudian (48.1%, 74.1%, and 66.7%), and neo-Freudian therapists (48.0%, 84.0%, and 76.0%). Overall chi-square comparisons between therapeutic orientations ranged from  $\chi^2(7) = 16.75$  to  $36.20$ ,  $p < .05$ , while pair-wise comparisons between therapeutic orientations with respect to a particular test ranged from  $\chi^2(1) = 5.91$  to  $32.00$ ,  $p < .05$ . These findings correspond to differences between these orientations in reported use of projective tests. Lastly, behavior therapists recommended the Stanford-Binet more often than Freudian therapists (36.7 vs. 11.1%),  $\chi^2(7) = 15.60$  and  $\chi^2(1) = 5.01$ ,  $p < .05$ .

### Discussion

The results of this survey indicated that both objective and projective tests are frequently used and that clinicians currently recommend tests that they reported using in the past (Lubin et al., 1971; Sundberg, 1961). The two most frequently recommended tests were both projective instruments — the Rorschach and the TAT. Each of those two instruments, in fact, was recommended significantly more often than any objective test (see Table 4). Thus, fears that projective

testing would fall into disfavor (e.g., McCully, 1965) are apparently not being realized.

The results also suggest that occupational specialization is related to both a clinician's use and opinion of testing. For instance, time spent in therapy in a public agency appeared to be positively related to test use. On the other hand, clinicians doing substantial teaching or research tended to recommend projective tests less often than clinicians not engaged in those activities (Shemberg & Keeley, 1970; Thelen et al., 1968). Academicians and researchers may have been more influenced by negative research findings regarding projective tests (Anastasi, 1968; Chapman & Chapman, 1971; Eron, 1965, 1971; Jensen, 1965; Klopfer, 1968; Little & Shneidman, 1959; Mischel, 1968, 1972, 1973; for discussions of projective tests' experimental support), than clinicians not engaged in those pursuits. The present survey, however, reveals that even though academicians and researchers may be less supportive of projective test use than clinicians with other specializations, they nevertheless recommend projective tests quite frequently. For example, the Rorschach and the TAT were the two most frequently recommended tests among clinicians doing substantial teaching.

Test usage was not only found to be related to occupational specialization, but to therapeutic orientation as well. While it was anticipated that eclectic, Freudian, and neo-Freudian clinicians would use tests frequently, the frequent test use by behavior therapists was unexpected. Behavior therapy is typically described as employing direct assessment measures (e.g., Goldfried & Kent, 1972). Theoretically, the assessment of traits or underlying personality dynamics should not be useful in behavior therapy (Goldfried & Kent, 1972; Kanfer & Saslow, 1965; Mischel, 1972). The frequent test use of behavior therapists may indicate that practical problems encountered with the use of alternative assessment procedures (e.g., behavioral observation) reduces their utility. Conversely, behavior therapists might find certain types of indirect assessment information useful.



Also, agency requirements may prompt test usage in spite of theoretical orientation (cf. Levy & Fox, 1975).

Lastly, the relationships found between occupational specialization, therapeutic orientation, and test use, may prove helpful in anticipating assessment needs in response to changes in professional orientation or activities. Since such relationships consist of associations between professional activities, therapeutic goals, and testing practices, they may reveal the general types of assessment information clinicians find useful in dealing with particular clinical problems. Such information should be considered in designing future assessment instruments.

#### Reference Note

1. Baker, T. B., & Wade, T. C. *Occupational specialization in clinical psychology: Therapeutic orientations and traditional testing practices*. Paper presented at the meeting of the Western Psychological Association, Los Angeles, 1976.

#### References

- Anastasi, A. *Psychological testing*. New York: McMillan, 1968.
- Bersoff, D. N. Silk purses into sow's ears: The decline of psychological testing and a suggestion for its redemption. *American Psychologist*, 1973, 28, 892-899.
- Biographical Directory of the American Psychological Association*. Washington, D.C.: American Psychological Association, 1974.
- Chapman, L. J., & Chapman, J. P. Associatively based illusory correlates as a source of psychodiagnostic folklore. In L. D. Goodstein & R. I. Lanyon (Eds.), *Readings in personality assessment*. New York: Wiley, 1971.
- Eron, L. D. Rorschach. In O. K. Buros (Ed.), *The sixth mental measurements yearbook*. Highland Park, N. J.: Gryphon, 1965.
- Eron, L. D. Thematic Apperception Test. In O. K. Buros (Ed.), *The seventh mental measurements yearbook* (Vol. 1). Highland Park, N. J.: Gryphon, 1971.
- Garfield, S. L., & Kurtz, R. M. Attitudes toward training in diagnostic testing: A survey of directors of internship training. *Journal of Consulting and Clinical Psychology*, 1973, 40, 350-355.
- Garfield, S. L., & Kurtz, R. M. Training and career satisfaction among clinical psychologists. *The Clinical Psychologist*, 1975, 28, 6-9.
- Garfield, S. L., & Kurtz, R. M. Clinical psychologists in the 1970s. *American Psychologist*, 1976, 31, 1-9.
- Goldfried, M. R., & Kent, R. N. Traditional versus behavioral personality assessment: A comparison of methodological and theoretical assumptions. *Psychological Bulletin*, 1972, 77, 409-420.
- Goldschmid, M. L., Stein, D. D., Weisman, H. N., & Sorrels, J. A survey of the training and practices of clinical psychologists. *The Clinical Psychologist*, 1969, 22, 89-94.
- Jensen, A. R. Rorschach. In O. K. Buros (Ed.), *The sixth mental measurements yearbook*. Highland Park, N. J.: Gryphon, 1965.
- Johnson, J. H., & Bornstein, P. H. A survey of behavior modification training opportunities in APA-approved internship facilities. *American Psychologist*, 1974, 29, 342-348.
- Kanfer, F. H., & Saslow, G. Behavioral analysis: An alternative to diagnostic classification. *Archives of General Psychiatry*, 1965, 12, 529-538.
- Kelly, E. L. Clinical psychology — 1960. Report of survey findings. *Newsletter: Division of Clinical Psychology of the American Psychological Association*, 1961, 14, 1-11.
- Klopfer, W. G. Current status of the Rorschach. In P. McReynolds (Ed.), *Advances in psychological assessment* (Vol. 1). Palo Alto, Calif.: Science and Behavior Books, 1968.
- Levy, M. R., & Fox, H. M. Psychological testing is alive and well. *Professional Psychology*, 1975, 6, 420-424.
- Little, K. B., & Shneidman, E. S. Congruencies among interpretations of psychological test and anamnestic data. *Psychological Monographs*, 1959, 73, (No. 6, Whole No. 476).
- Lubin, B. Survey of psychotherapy training and activities of psychologists. *Journal of Clinical Psychology*, 1962, 18, 252-256.
- Lubin, B., Wallis, R. R., & Paine, C. Patterns of psychological test usage in the United States: 1955-1969. *Professional Psychology*, 1971, 2, 70-74.
- McCully, R. S. Current attitudes about projective techniques in APA approved internship centers. *Journal of Projective Techniques & Personality Assessment*, 1965, 27, 271-280.
- Mischel, W. *Personality and assessment*. New York: Wiley, 1968.
- Mischel, W. Direct versus indirect personality assessment: Evidence and implications. *Journal of Consulting and Clinical Psychology*, 1972, 38, 319-324.
- Mischel, W. Facing the issues. *Journal of Abnormal Psychology*, 1973, 82, 541-542.
- Shemberg, K., & Keeley, S. Psychodiagnostic training in the academic setting: Past and present. *Journal of Consulting and Clinical Psychology*, 1970, 34, 205-211.
- Sundberg, N. D. The practice of psychological testing in clinical services in the United States. *American Psychologist*, 1961, 16, 79-83.
- Thelen, M. H., & Ewing, D. R. Roles, functions, and training in clinical psychology: A survey of academic clinicians. *American Psychologist*, 1970, 25, 550-554.

Thelen, M. H., Varble, D. L., & Johnson, J. Attitudes of academic clinical psychologists toward projective techniques. *American Psychologist*, 1968, 23, 517-521.

Wade, T. C., & Baker, T. B. Opinions and use of psychological tests: A survey of clinical psychologists. *American Psychologist*, in press.

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## Is Psychodiagnostic Assessment Humanistic?

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*Summary:* The views of psychologists associated with the humanistic orientation in regard to psychodiagnostic assessment was examined. For the most part these theorists describe assessment as nonhumanistic. Their concerns about assessment were divided into five categories: that assessment is reductionistic; it is artificial; it does not pay attention to the examiner-patient relationship; it judges people; it is overly intellectual. These concerns were elaborated and then responded to from a pro-assessment stance. Although these criticisms could be valid, their validity was said to reflect poor diagnostic practice rather than an inherent weakness in the assessment enterprise. As long as the examiner attempts actively to engage the patient in the assessment process and is aware of the interpersonal context of the test responses and behavior, then psychodiagnostic assessment is consistent with a humanistic orientation.

Recently a well thought-out and articulated paper (Blatt, 1975) reviewed the use of projective techniques in both research and clinical practice. This paper provided a thoughtful discussion of the many criticisms of projective techniques and suggested that the source of many of these criticisms lay in poorly planned validation studies. In addition, the degree of sophistication in psychodiagnostic assessment necessary to provide a genuine clinical contribution was discussed. Both the author and his paper were subjected to harsh condemnation (Munter, 1975) which violated a number of humanistic principles. For example, rather than debating the issues raised in Blatt's paper in a scholarly and sophisticated manner Munter (1975) suggests that his pro-diagnosis stand reflects an identification with the aggressor because he works in a medical setting. She referred to his reliance on invalid tests without seeming recognition that half of his paper had been devoted to precisely that point — that projective techniques are valid. Diagnosis was criticized as only classifying people rather than relating to them existentially, with no seeming awareness that she had *classified* him solely on the basis of his place of employment.

This sort of attack begs the real issue of whether psychodiagnostic assessment is compatible with a humanistic perspective of people. Other authors associated with the humanistic orientation or third force within psychology (Brown, 1972; Jourard, 1968; Nadolsky, 1966) suggest,

also, that assessment is incompatible with a humanistic image of people. Although a number of authors committed to psychodiagnosis (Appelbaum, 1976; Sheckman, 1976; Shevrin & Sheckman, 1973) have touched upon this issue, this paper will attempt to come directly to grips with the issue of the reconcileability of psychodiagnostic assessment with this humanistic perspective.

### *A Humanistic Critique of Psychodiagnostic Assessment*

In reviewing the literature for criticisms of assessment by psychologists associated with the humanistic orientation and others, 31 criticisms were found. Obviously there is some overlap in these criticisms. Therefore, they will be grouped together into five categories which capture the essence of their concerns. These five categories will be discussed generally and only some of the specific points within each will be reviewed because of space limitations. The five general categories are: assessment is reductionistic; assessment is artificial; assessment does not pay attention to the examiner-patient relationship; assessment judges people; assessment is overly intellectual.

#### *Assessment is Reductionistic*

The gist of this concern with psychodiagnostic assessment is that the whole person is broken up into a semblance of bits and pieces (Nadolsky, 1966) because it is derived from psychoanalysis, a system whose emphasis is on understanding the

unconscious individual and the innate instincts, drives, and other intrapsychic events while ignoring real behavior (Leary, 1970; Nadolsky, 1969). Assessment demands that this part-whole individual be categorized and compared with other individuals and loses the uniqueness of the individual patient. In addition, psychodiagnostic assessment is static because it takes no account of the individual's capacity to change (Leary, 1970; Van der Veen, 1970).

### *Assessment is Artificial*

The psychodiagnostician works in artificial settings, not in the natural environment of the examinee and is unable to develop a true picture of the patient's being-in-the-world (Leary, 1970). Instead the patient is forced into the conceptual system and world of the examiner. Psychodiagnostic assessment is described as artificial and redundant from a different perspective because it obtains information which will arise anyway in the course of psychotherapy, a more natural environment (Appelbaum, 1976; Sheckman, 1976).

### *Assessment Does Not Pay Attention to the Examiner-Patient Relationship*

The examiner avoids the personal aspects of their relationship through the use of tests as a barrier between examiner and client (Brown, 1972). The patient is impersonalized by such a procedure and made into an object to be filtered through the physical methods of science (Appelbaum, 1976; Brown, 1972; Shevrin & Sheckman, 1973). In efforts to obtain the "real data," the diagnostician relies upon deception and subterfuge which can often backfire and lead to the patient deceiving the examiner in retaliation for the examiner's dishonesty.

### *Assessment Judges the Patient*

A major source for charges that assessment is nonhumanistic is that it makes the examiner both a judge and an expert in attempting to control the patient (Munter, 1975). The judgmental qualities of the diagnostic process are reflected in its emphasis on using the examiner's criteria for disordered behavior and ignoring the meaning which the behavior

has for the patient (Jourard, 1968) and in its tenet of determinism. Further contributing to this air of judgment is the focus upon negative experiences instead of the positive elements of one's existence (Brown, 1972) and the patient's lack of opportunity to respond to the examiner's inferences. Some authors (Szasz, 1969) have gone so far as to suggest that diagnosis is only a social judgmental way of stigmatizing certain people.

### *Assessment is too Intellectual*

While humanistic psychology appreciates spontaneity and authenticity, psychodiagnostic testing is said to rely on abstractions which are removed from everyday experience (Brown, 1972). In addition, the effort to understand the experience is in itself antithetical to this emphasis on spontaneity.

Psychodiagnosticians are accused, also, of emphasizing rationality and believing that reason can solve all problems (Brown, 1972) and of being overly concerned with the past because they support the medical model (Appelbaum, 1976; Sheckman, 1976; Shevrin & Sheckman, 1973).

### *A Humanistic Approach to Assessment*

Before responding to these criticisms, it will be useful to examine the humanistic psychologists' alternative to traditional assessment procedures. Many humanistic psychologists claim to have no use at all for assessment. The flat rejection of assessment is based on the assumptions that either assessment provides no useful information or that all the information necessary will arise in the therapy hour. The latter notion will be discussed in the next section. As to the former notion, this author takes as given that psychodiagnostic assessment does provide useful information.

Some humanistic thinkers (Brown, 1972; Jourard, 1968; Nadolsky, 1966) have suggested an alternative rather than just criticized assessment. The first step of the humanistic assessment procedure involves the self-knowledge of the examiner. One must know oneself before attempting to understand others (Brown, 1972). This self-knowledge is particularly



important because the humanistic psychologist emphasizes the use of oneself as an instrument (Shapiro, 1967).

The next step in the process is to become acquainted with the patient (Brown, 1972). This step can span many sessions while both parties decide if they can work together. It is important that the patient's statements be accepted at face value. Then, the contract between them, particularly in respect to the test findings is developed and made explicit. Jourard (1968) explains that when he does test, he feels duty bound to tell the patient what the tests lead him to think. If for any reason he feels unable to tell the patient immediately, he promises to tell him later and does so.

Another step in this process is the formation of a personal friendship. This step fosters an equality between patient and examiner designed to encourage optimal self-disclosure by the patient. In part, the examiner must be willing to be self-disclosive in order to facilitate the patient's opening up. Next the examiner and the patient must experience each other in a variety of contexts, social as well as private, in order to allow the examiner to reflect upon experiencing the patient in these settings (Brown, 1972). Nadolsky (1966) adds to this procedure the necessity of obtaining the views of important others about the patient. The patient's family, friends, colleagues, and employer should all be interviewed in order to develop a broad understanding of the whole patient.

### *Responses to the Humanistic Critique of Assessment*

At this point the previously stated criticisms of psychodiagnostic assessment will be explored. It will be obvious in the response that many of the criticisms often depend upon the sophistication of the psychodiagnostician. The point of view taken in this paper is that the sophisticated psychodiagnostician will not err in the manner proclaimed by humanistic psychology. The standard against which the humanistic criticisms will be examined will be the diagnostic process developed out of the Rapaport, Gill, and Schafer (1968) and Schafer (1948, 1954) tradition.

Thus, psychodiagnostic testing as it is practiced at a number of major treatment centers will be used as the model of sophisticated assessment.

### *Assessment is not Reductionistic*

The criticism that the intimate relationship of psychodiagnostic testing with psychoanalytic theory precludes a humanistic approach is based on an outdated view of psychoanalytic theory. The argument that psychoanalytic theory is not humanistic has been confronted elsewhere (Sugarman, Note 1). Although Freud originally had difficulty giving up his neurological heritage in order to embrace wholeheartedly the humanistic theory at which he arrived, recent psychoanalysts have corrected the theoretical manifestations of this difficulty. The development of a split between a clinical theory based on a personal understanding of human beings and a metapsychological theory grounded in biological and physical concepts has been clarified (Klein, 1976). With recent developments in philosophy of science (Merleau-Ponty, 1963) psychoanalysts have begun to realize that resorting to reductionistic explanations of people is not necessary to give scientific status to a theory (Schafer, 1976). This realization has led to volition being accorded its rightful place in understanding human behavior (Shapiro, 1970).

Despite these changes in psychoanalytic theory, psychodiagnosticians have been admittedly slow to place them into practice. The growth of psychodiagnostic testing out of ego psychological theory has resulted in too many test reports and conceptualizations which focus on a number of abstract ego functions and seemingly forget that these functions occur within the context of a person. As Mayman (1963) says, "With tests we generally seek to establish a patient's vulnerability to disruptive attacks of anxiety... the deficiencies in ego strength such as are reflected in disturbance of reality testing function; gross deficiencies in the modulation and affective channeling of feelings and impulses" (p. 103). It is no wonder that test reports are accused of being nonhumanistic when they are couched

in these terms. There is no longer a need to resort to this mode of understanding people because of the advent of object relations theory (Fairbairn, 1954; Guntrip, 1969) in psychoanalytic thought with its emphasis on interpersonal relationships. As Mayman (1963) goes on to say,

But an equally tenable approach to diagnosis... would be to organize the diagnosis around an analysis of the patient's identity patterns... The cohesiveness and scope of a person's ego-synthesis will rest heavily upon the synthesis he can achieve of the various partial identities which crystallize out of the various object relationships which in the course of his development have played a central organizing role in shaping the budding ego. It is through these identity patterns that a person channels his biological urges and infantile yearnings. (p. 103)

This approach to psychodiagnostic assessment should clearly enable testing to relate more significantly to real behavior as well as to portray the ways in which the patient chooses a personal world through emphasis on certain relational paradigms.

In addition, the approach advocated above by Mayman should dispel fears that psychodiagnosis is nomothetic. It is only by clearly delineating the various identity patterns which the patient has available and the conditions under which one or another is used, that the uniqueness of the person is appreciated. In addition, the use of norms is not to pigeonhole the patient. Rather, by the careful comparison of an individual with norms, it is possible to determine where one differs from the norms, thereby contributing further to an idiographic appreciation of a patient (Shevrin & Shectman, 1973).

Although some psychodiagnosticians may approach the patient as a static entity, this fault is one of poor practice rather than inherent in the diagnostic process. Surely the above mentioned approach to diagnosis which describes certain potential interpersonal paradigms and the conditions under which the patient resorts to them is not static. To make a flat statement that the patient is schizophrenic is static. But to explain that, when experiencing intense sexual impulses and after attempt-

ing to intellectualize them have failed, the patient's thinking is likely to become schizophrenic; but with the provision of confrontation, is able to regain contact with reality, it is a much different sort of statement. However, one must stress also that the patterns which any individual has available, are not infinite. It is a fallacy to suggest that diagnosis only limits the limitless repertoire of identities available. Therapists of all persuasions have struggled at times with the realization that there are real limits to how much their patients can change. In fact, helping one accept one's limitations is often a primary task in therapy. Therefore, although a process approach to diagnosis is preferable, there are limits to the process.

### *Assessment is not Artificial*

The statement that assessment is artificial because the testing environment is not a "natural" one rests on the assumption that all of an individual's behaviors need to be examined in order to develop an adequate understanding of the person. And, indeed, the assessment schemes proposed by some of the humanistic psychologists suggest that they devote an inordinate amount of time to this process. Although this goal is a commendable one it is neither practical nor necessary. Pragmatically, in this age of increasing demands for clinical services, it is impossible to spend the time implicit in Nadolsky's (1966) or Brown's (1972) approach. The extended procedure which they suggest would be difficult to differentiate from the therapy process itself. And although the distinction between therapy and diagnostic assessment is somewhat arbitrary, it is a useful one to maintain because of the predictive uses of diagnosis. Assessment should by definition be of a shorter duration than the treatment process which it helps to develop if it is used to develop a treatment plan in as economic a fashion as possible. The word economic is a key one here. It is humanistic to develop an approach which provides maximal information in the minimal time possible because of the present-day cost of clinical services. The assessment procedure to be described later



takes five or six hours rather than the days or even weeks implicit in Brown's or Nadolsky's approach.

In addition, the notion that observation of all behavior is necessary is open to question. One already mentioned fact which becomes clear in clinical practice is that any individual has available only a limited number of behaviors and stances. Given this inherent limitation in the human condition it becomes obvious that the assessment procedure need be only comprehensive enough to tap these various behaviors or stances. Once the diagnostician has offered the patient this opportunity and has been able to order these stances in a hierarchical manner, a point of diminishing return has set in.

The suggestion that assessment is artificial because it attempts to view the patient from the examiner's experience and avoids an understanding of the patient's experiences of his world can be valid. Sargent (1951) devotes a paper to the examination of four different styles of test report writing, three of which suffer from ignoring the patient's experience. This fault in diagnostic assessment and report writing reflects the historical development of the role of psychologists in clinical facilities. With the advent of ego psychology, clinical psychologists were able to find a niche within clinical psychoanalysis. The parallel of the traditional areas of academic psychology with the various ego functions making up the enlarged concept of the ego has been noted elsewhere (Klein, 1976). Therefore, psychologists had a headstart in the exploration of this new frontier because of their academic training. The reconciliation of this academic knowledge with psychoanalytic ego psychology was achieved through the medium of psychological tests. This reconciliation is clear in the writings of Rapaport, Gill, and Schafer (1968). Given this unique training, psychologists were quick to use it in an effort to tease out the vicissitudes of the various ego functions within each individual patient and to establish a professional identity. Therefore, the patient (and his ego functioning) was usually described from the outside.

The approach advocated by Mayman

(1963) and described in the previous section should be a step toward resolving this difficulty. However, such an approach can also lead to descriptions of the patient from the point of view of an observer. Although it is admittedly difficult to empathize sufficiently with another's experience to describe it from the other's point of view while not losing one's objectivity about its consistency with most others' experiences of the world, this goal should be kept in mind. It is also important to understand the patient's motives and the various shifts experienced when describing the identity patterns and the sequences and conditions under which the patient changes them.

One of the most important issues to be assessed is the patient's reactions to the experiences. Are the experiences enjoyable and conceptualized as integrated and understandable? Or are they frightening and disorganized? Are certain aspects of the person's functioning seen as incomprehensible and not fitting into the patient's self-concept? In clinical terms, then, the ego syntonicity and integration of one's experiences and functioning is a crucial diagnostic issue (Blatt, 1975).

In addition, one should assess the degree to which the patient is both able and willing to attempt to make sense of his world. This goal can be accomplished by involving the person as an active participant in the assessment process. Therefore, it is often helpful to request an opinion of the client's own stories and how they might be interpreted. After a Word Association Test, one can ask the patient which associations are particularly informative and what personal or unique information is contained in them. In this way the examiner minimizes the danger of interpreting the patient's responses in the context of the examiner's associations.

Appelbaum (1969, 1976) has noted that many clinicians adopt the attitude that there is no need to have a separate and artificial diagnostic process because all that is important will be expressed eventually in therapy. This position is a saddening one because it implies severe inflexibility on the part of the therapist.

The only condition under which this viewpoint would make sense is if the therapist has only one mode of therapy which he applies inflexibly to each patient. This rigidity implies such forcing of the patient to fit the mold of the therapist that it is difficult to understand how a therapist operating from a humanistic perspective could adopt it. One cannot blame these therapists only, however, because it is a viewpoint shared by therapists of many persuasions. It is a generally accepted fact, though, that not every patient is appropriate for classical psychoanalysis. Our present day knowledge suggests that psychoanalysis leads easily to a psychotic break in patients with severe ego weakness. Likewise, this same caution would apply presumably to Gestalt therapy, with its emphasis upon affect and fantasy. Other factors which need to be considered before beginning psychotherapy proper include the possible need for medication, the question of short-term versus long-term therapy, the need for a more family oriented treatment, etc. In this day of multiple therapeutic approaches, patients deserve the assurance that the therapist and the therapeutic approach has been selected according to their individual needs.

Psychodiagnosis also offers the potential for more efficient treatment, which is certainly humane, if not humanistic. Those aspects of the patients' experiences which are deemed most important by the patient are revealed to the therapist during psychotherapy. Any intervention by the therapist influences the course and direction which the patient travels in attempting to explain experiences. Through an advance knowledge of the routes which are most important the therapist can modify interventions so as to reduce the number of wrong turns and dead ends. At this point, some therapists might object that the only source of important information is the patient's subjective experience. This objection is based on the notion that psychodiagnostic assessment can only derive an objective understanding of the patient. As described above, the understanding of the patient's subjective experience is a crucial part of the diagnostic enterprise.

### *Assessment Does Pay Sufficient Attention to the Examiner-Patient Relationship*

Again, although the attitudes and behaviors criticized by the humanists do occur, this abuse of diagnostic principles should not serve as an indictment of all assessment. In fact, the importance of attending to the examiner-patient relationship has been stressed by a number of psychologists committed to psychodiagnostic assessment (Schafer, 1954; Appelbaum & Siegal, 1965; Shevrin and Sachtman, 1973; Schlesinger, 1973). One might differentiate a psychometric approach from a psychodiagnostic one on the emphasis paid to this variable. A genuine psychodiagnostic approach never loses sight of the fact that it is occurring within an interpersonal context.

The assessment process should never begin in a stereotyped manner because of this fact. The patient's reactions and thoughts about the testing should be discussed while they explore the client's ability to see a relationship between testing and the desire for help (Schlesinger, 1973). The patient's behavior during the testing and modes of interacting with the examiner are often a more valuable source of information than the test responses. Therefore, the patient's reflectiveness, capacity to accept help, tenacity when experiencing difficulty, etc. all become aspects to be explored.

It is clear that the examiner cannot be the invisible, passive spectator which certain psychologists strive to be, if he is to assess these variables. This concept of the passive examiner is naive and reflects an inappropriate generalization from experimental psychology's emphasis on the evils of experimenter bias. The examiner's attempts to pretend not to be there, does not guarantee the patient's lack of reaction to his presence. Therefore, the examiner may be active, encouraging, and relating continually to the patient.

To assess the patient's range of interpersonal behaviors, the examiner must elicit them through changing the relationship and exploring the patient's response to the examiner. Does the patient eagerly seize the opportunity to interpret re-



sponses when asked? Or react in a suspicious way as if being attacked?

The need to develop a collaborative alliance with the patient is obvious if one appreciates realistically the importance of the examiner-patient relationship. The many connotations which testing or assessment conveys to most individuals suggest that the patient is liable to experience the assessment process with anxiety. The natural tendency when anxious is to become guarded and defensive. Despite one's talents in making valid clinical inferences from little data, a diagnostician knows the increased understanding afforded by a 30-response Rorschach record as compared with a 10-response record. Therefore, the patient's interest in the process must be engaged rather than merely going through the motions.

It is difficult to see how this conception of assessment can be misconstrued as an effort to view the patient as an object to be filtered through the tests. Such a viewpoint would imply the presence of objective findings about the patient which exist outside of an interpersonal relationship. Despite theoretical orientation, clinicians know that such a premise is nonsensical. Although computerized interpretation of self-administered inventories might be guilty of such naivete, the use of a broad test battery by a skilled and sensitive diagnostician is not.

The suggestion that interviews replace tests seems curious if one adopts the above described approach to assessment. Tests assess a broader range of individual functioning than do interviews. A recent finding from the Menninger Psychotherapy Research Project shows conclusively the greater accuracy and predictive value of tests over interviews in regard to diagnosis (Appelbaum, 1976).

#### *Assessment Does not Judge the Patient*

The argument that the patient feels so judged by the examiner that it could contaminate therapy, misses a crucial point. A person who experiences testing in such an intense manner, is likely to feel just as evaluated in psychotherapy. Therefore, testing can serve a useful purpose by assessing the modifiability and the conditions that lead to the modification of this

reaction. There is a continuum between psychotherapy and psychodiagnosis with a single set of clinical principles underlying both enterprises (Blatt, 1975; Schlesinger, 1973). Thus, the patient's experience of the testing process can predict paradigms that therapy is likely to reveal.

One can only lament the focus on the negative so prevalent within psychodiagnosis. It is no secret that adequate psychodiagnostic assessment examines the patient's strengths as well as weaknesses (Blatt, 1975).

Arguments concerning the potential social or political abuses of assessment raise similar consternation. However, it should be emphasized again that it is the abuse of diagnosis which should be condemned and not diagnosis itself (Appelbaum, 1976; Sheckman, 1976; Shevrin & Sheckman, 1973). The best safeguard against this abuse is the development of a sounder body of knowledge in regard to diagnosis and treatment (Sheckman, 1976; Shevrin & Sheckman, 1973).

Similarly, although labels play an obvious part in diagnosis, they should be only a part and do not imply criticism because they label the nature of the difficulty. The degree of disturbance and the manner in which the patient uses the disturbance are as important questions as the nature of the disturbance implied in the label. Although a label implies that a patient fits a certain mold, the patient may not show the consistency implied in the label. Therefore, diagnosis and testing must aim at integrating the various contradictions within the patient's personality. A series of descriptive statements is not sufficient to be considered understanding. Rather, the multiple levels of the patient's personality must be emphasized and synthesized (Blatt, 1975).

The related criticisms about the determinism implicit in psychodiagnostic testing ignore the reality of psychological determinism. Even the existential philosophy underlying humanistic psychology posits existential-a-priori (the givens of one's experience). It is necessary for one to be aware of the unconscious limits placed upon oneself in order to increase the scope of free will advocated by these theorists.

Finally, it is difficult to empathize with

the argument that assessment indicts the individual without giving one a chance to respond. The patient may experience the evaluation in this manner because of all the negative images conjured up by the word "testing." However, if the practice of asking the patient to comment on his responses, advocated earlier in this paper, is followed then it seems that this potential difficulty can be avoided.

### *Assessment is Not Too Intellectual*

The concern that assessment can rely on abstractions which have little relationship to the patient's experience is a valid one. If the focus is too much in metapsychological rather than experiential terms this difficulty easily occurs. However, more often the major difficulty with psychological test reports is that they are too concrete and, in fact, do not abstract sufficiently from the test variables to the patient's experience. Therefore, one finds a report discussing intelligence, responses to unstructured cards, etc., without an effort made to relate these factors to a human being.

However, the emphasis on the patient's own experience should not be taken to imply that one can therefore arrive at all the needed understanding by inquiring solely into the patient's experience. "One is a particular self more fully than he knows that self" (Mayman, 1963, p. 99). Thus, an objective assessment of aspects in the patient's functioning of which he is unaware is also needed.

It is more difficult to understand the claim that understanding and reason only spoil the individual's experience. This statement confuses the use of the intellect as a defense with the use of the intellect for understanding (Shevrin & Sheckman, 1973). Understanding only broadens and deepens one's experience. It does not constrict it. In fact, most patients present themselves as living narrow, constrained lives, hampered by inhibitions of which they are unaware. As they learn to understand themselves and not be ashamed of themselves, their experience is enlarged and enriched.

One source for this concern about over-intellectualization derives from clinical experience with obsessional and hysteri-

cal patients. However, the trend in pathology of this particular age seems to be shifting (Pruyser, 1973).

There is good reason to think that the prevailing psychopathology of our time and our culture is no longer typified by restriction and hyper-repression but rather by weakness of impulse control, narcissistic self-indulgence, loose thought organization, and externalization of conflicts...many of the newer...therapies address themselves in theory and presuppositions to more or less Victorian psychopathologies, while many of the clients they attract by a blind drift in the absence of diagnostic screening, may possess the opposite kind of pathology requiring remedies toward containment and restructuring rather than fitful abreacons. (pp. 435-436)

The concern that diagnostic assessment may overrely on reason to the exclusion of emotion certainly is a valid one. However, it seems ridiculous to accuse psychodiagnostic assessment of not appreciating the irrational in man. If anything, diagnostic assessment has in the past tended to over emphasize the irrational aspects of man as reflected in "wild" Rorschach analysis. Furthermore, it is puzzling how the humanists can claim the province of the irrational for themselves. Their emphasis upon volition and intention implies a view of human beings as being ruled more by reason than does psychoanalytic theory with its concept of the id.

However, one must agree with the humanistic psychologists that it is poor practice to be overly concerned with the patient's past. The past is only important as it influences the present. Therefore, in understanding the patient one should go from the present back to the past and not vice versa (Shevrin & Sheckman, 1973). In the diagnostic process, the gathering of historical data is not as important as the way in which the patient presents the past and its influence (Shevrin & Sheckman, 1973).

The suggestion that a focus on the past in diagnosis is due to the use of an inappropriate medical model with its concept of etiology does not make sense. One of the major sources of dissatisfaction with the medical model is its biological focus. Although a purely biological focus is an



invalid way of understanding human experience, the total rejection of biological factors results in a mental monism. This philosophical position does not seem congruent with the philosophical underpinnings of the humanistic camp (Merleau-Ponty, 1963). It makes more sense to think of the medical model as an attempt to apply the scientific method to the study of mental and physical disorders (Shevrin & Sheckman, 1973). As a method it can be applied as easily to the study of interpersonal factors as to biological ones.

Another criticism about the medical model involves the variability of psychopathology and treatment. Etiology, therapy, duration, and severity are so variable that some clinicians question the direct correspondence between diagnosis and these factors. One must admit that given the present state of knowledge it remains impossible to develop a direct correlation between most diagnostic categories and a specific etiology. However, this impossibility seems due to a need to learn more about the complexities and vicissitudes of developmental and other etiological factors and how they lead to specific symptom formation. In order to undertake such a task it is important to continue to refine our diagnostic expertise rather than to discard the diagnostic process. Furthermore, as different modes of treatment are developed and present treatment is refined, the literature begins to suggest an increasing correspondence between treatment and diagnosis. A number of studies (Appelbaum, 1976; Horowitz, 1974; Kernberg, Burstein, Coyne, Appelbaum, Horowitz, & Voth, 1972) arising out of the Menninger Psychotherapy Research Project found that patients falling into certain diagnostic categories responded more favorably to certain forms of psychotherapy. Thus Kernberg (1975) found that patients showing a borderline personality organization did better in a specific form of individual psychotherapy than in psychoanalysis. Other findings (Knapp, Levin, McCarter, Werner, & Zetzel, 1960) indicate that patients with hysterical character structures fall in two groups; those that respond to psychoanalysis and those who

do not. This finding supports other suggestions (Zetzel, 1968; Sugarman, Note 2) that the distinction between hysterics organized at a neurotic level of character pathology and hysterics organized at a borderline level, is an important one to make if efficient and economical treatment is to be provided.

### *An Alternate View of the Psychodiagnostic Process*

The discussion preceding this section should make clear the answer to the question raised in this paper's title. An emphatic yes is the only logical response to "Is Psychodiagnostic Assessment Humanistic?" That is, if the assessment process and philosophy follows the model proposed herein, then it is incomprehensible to state that it is not humanistic.

The process proposed in this paper is derived from that conceptualized by Shevrin and Sheckman (1973). To quote them,

the diagnostician through *the medium of a personal relationship*, elicits and observes a range of psychological functioning which he considers relevant on some theoretical grounds for understanding the disorder so that he can make a recommendation which stands a good chance of being acted on as a basis for dealing with that disorder. (p. 451)

The major phase of importance in the above quotation involves the words "personal relationship." The process described throughout this paper has stressed consistently the importance of the patient-examiner relationship. The humanistic theorists emphasize the importance of the interpersonal. Given this emphasis, understanding of the patient must occur in an interpersonal context. In addition, the language used in diagnostic understanding is important. The language of persons is the only valid one for diagnosis (Pruyser & Menninger, 1976). Therefore, one's formulations must be cast in experiential terms, not mechanistic and reductionist ones. In using this language style one must take care, however, not to overemphasize the role of volition. An experiential vocabulary lends itself to this difficulty. But if one realizes the importance of the irrational as stressed by the humanists, then it should be clear that

the individual is not always aware of all of the limitations upon his behavior.

It is hoped that the conclusion drawn from this paper is that more sophisticated teaching and use of psychodiagnostic assessment techniques should occur rather than a rejection of assessment. To act on such a conclusion could help stem what Strupp (1976) has labeled correctly as an erosion in the excellence within clinical psychology.

#### Reference Notes

1. Sugarman, A. *Psychoanalysis as a humanistic psychology*. Revised version of paper presented to the Department of Psychology, Georgia State University, Atlanta, March, 1976.
2. Sugarman, A. *The infantile personality: A borderline hysteric*. Unpublished manuscript, Yale University, 1976.

#### References

- Appelbaum, S. A. Psychological testing for the psychotherapist. *Dynamic Psychiatry*, 1969, 2, 158-163.
- Appelbaum, S. A. Objections to diagnosis and diagnostic psychological testing diagnosed. *Bulletin of the Menninger Clinic*, 1976, 40, 559-564.
- Appelbaum, S. A., & Siegal, R. S. Half-hidden influences on psychological testing and practice. *Journal of Projective Techniques & Personality Assessment*, 1965, 29, 128-133.
- Blatt, S. J. The validity of projective techniques and their research and clinical contributions. *Journal of Personality Assessment*, 1975, 39, 327-343.
- Brown, E. C. Assessment from a humanistic perspective. *Psychotherapy: Theory, Research, and Practice*, 1972, 9, 103-106.
- Fairbairn, W. R. D. *An object relations theory of the personality*. New York: Basic Books, 1954.
- Guntrip, H. *Schizoid phenomena, object relations and the self*. New York: International Universities Press, 1969.
- Horwitz, L. *Clinical prediction in psychotherapy*. New York: Jason Aronson, 1974.
- Jourard, S. *Disclosing man to himself*. New York: Van Nostrand Reinhold, 1968.
- Kernberg, O., Burstein, E., Coyne, L., Appelbaum, A., Horowitz, L., & Voth, H. Psychotherapy and psychoanalysis. *Bulletin of the Menninger Clinic*, 1972, 36, 3-275.
- Kernberg, O. *Borderline conditions and pathological narcissism*. New York: Jason Aronson, 1975.
- Klein, G. S. *Psychoanalytic theory: An exploration of essentials*. New York: International Universities Press, 1976.
- Knapp, P., Levin, S., McCarter, R., Werner, H., & Zetzel, E. Suitability for psychoanalysis. A review of one hundred supervised analytic cases. *Psychoanalytic Quarterly*, 1960, 29, 459-477.
- Leary, T. The diagnosis of behavior and the diagnosis of experience. In A. Maher (Ed.), *New approaches to personality classification*. New York: Columbia University Press, 1970.
- Matson, F. Humanistic theory: The third revolution in psychology. *The Humanist*, 1971, 20, 7-11.
- Mayman, M. Psychoanalytic study of the self-organization with psychological tests. In *Proceedings of the Academic Assembly on Clinical Psychology*. Montreal: McGill University Press, 1963.
- Merleau-Ponty, M. *The structure of behavior*. Boston: Beacon Press, 1963.
- Munter, P. O. The medical model revisited: A humanistic reply. *Journal of Personality Assessment*, 1975, 39, 344.
- Nadolsky, J. Diagnosis in rehabilitation counseling: An existential approach. *Rehabilitation Literature*, 1966, 33, 66-75.
- Nadolsky, J. The existential in vocational evaluation. *Journal of Rehabilitation*, 1969, 35, 22-24.
- Pruyser, P. The beleaguered individual: Images of man in clinical practice. *Bulletin of the Menninger Clinic*, 1973, 37, 433-450.
- Pruyser, P., & Menninger, K. Language pitfalls in diagnostic thought and work. *Bulletin of the Menninger Clinic*, 1976, 40, 417-434.
- Rapaport, D., Gill, M., & Schafer, R. *Diagnostic psychological testing*. New York: International Universities Press, 1968.
- Sargent, H. D. Psychological test reporting: An experiment in communication. *Bulletin of the Menninger Clinic*, 1951, 15, 175-186.
- Sartre, J. Existentialism is a humanism. In W. Kaufman (Ed.), *Existentialism from Dostoevsky to Sartre*. New York: Meridian Book, 1956.
- Schafer, R. *The clinical application of psychological tests*. New York: International Universities Press, 1948.
- Schafer, R. *Psychoanalytic interpretation in Rorschach testing*. New York: Grune & Stratton, 1954.
- Schafer, R. *A new language for psychoanalysis*. New Haven: Yale University Press, 1976.
- Schlesinger, H. J. Interaction of dynamic and reality factors in the diagnostic testing interview. *Bulletin of the Menninger Clinic*, 1973, 37, 495-517.
- Shapiro, D. Motivation and action in psychoanalytic psychiatry. *Psychiatry*, 1970, 33, 329-343.
- Shapiro, S. Myself as an instrument. In J. Bugental (Ed.), *Challenges in humanistic psychology*. New York: McGraw-Hill, 1967.
- Shectman, F. Provocative issues in psychiatric diagnosis: A dialogue. *Bulletin of the Menninger Clinic*, 1976, 40, 435-458.
- Shevrin, H., & Shectman, F. The diagnostic process in psychiatric evaluations. *Bulletin of the Menninger Clinic*, 1973, 37, 451-494.
- Strupp, H. H. Clinical psychology, irrationalism and the erosion of excellence. *American Psychologist*, 1976, 31, 561-571.



Szasz, T. S. *The myth of mental illness: Foundations of a theory of personal conduct*. New York: Hoeber-Harper, 1961.

Van Der Veen, F. Client perception of therapist conditions as a factor in psychotherapy. In J. Hart & T. Tomlinson (Eds.), *New directions in client centered therapy*. Boston: Houghton Mifflin, 1970.

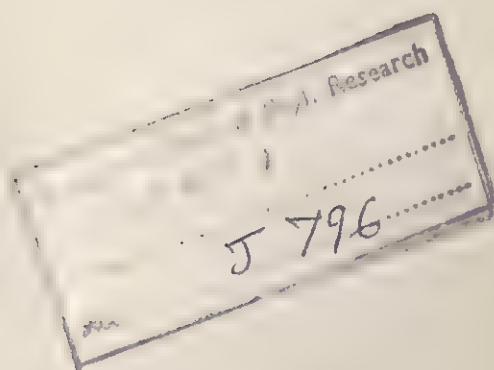
Zetzel, E. The so-called good hysteric. *International Journal of Psycho-Analysis*, 1968, 49, 256-260

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## Six-month Prognostic Norms Derived from Studies of the Rorschach Prognostic Rating Scale

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**Summary:** The Rorschach Prognostic Rating Scale (RPRS) was introduced in 1951 by Klopfer, Kirkner, Wisham, and Baker. The predictions of Klopfer et al. are compared to the outcomes in four studies of the RPRS. The original interpretation is shown to predict higher percentages of success than revealed by the empirical studies. A second interpretation of the scale is proposed on the basis of the experimental data. This interpretation relates RPRS scores to the chance for substantial improvement within 30 weeks of once weekly therapy by client-centered, rational-emotive, desensitization, aversion, or traditional methods. For any given RPRS score, the chance for substantial improvement is approximately the same for every type of therapy, and increases as the RPRS score increases. The second interpretation is proposed in both tabular and algebraic forms as a stimulus to further research and clinical applications.

The Rorschach Prognostic Rating Scale (RPRS) was introduced in 1951 by Klopfer, Kirkner, Wisham, and Baker. This scale was designed to "measure the adjustment potential of the individual on the basis of the responses he makes to the Rorschach cards" (Klopfer, Ainsworth, Klopfer, & Holt, 1954, p. 688). Since the introduction of the RPRS, some 22 studies have used the scale. These studies show that the scale is significantly correlated with therapeutic outcome (Garwood, 1977).

The scale interpretations provided by Klopfer et al. (1951) can be compared with actual outcomes. This comparison shows a difference between the predictions of Klopfer et al. and the outcomes derived from the empirical studies. A second interpretation is presented, in both tabular and algebraic forms.

### *Data Base*

Four studies provide the raw data for the calculations. Each study is drawn from a different sample population. Cartwright (1958) studied self-referred ambulatory cases, a typical sample for the University of Chicago Counseling Center using client centered therapy. Kirkner, Wisham, and Giedt (1953) studied the case notes of terminated veterans hospital patients, psychoneurotic and psychotic. Newmark, Finkelstein, and Frerking (1974) studied neurotics with anxiety or depression as the most prominent symptoms. Newmark et al. divided their sample into two groups: one group was treated

by rational-emotive methods and the other by behavior modification, in particular desensitization and aversion therapy. Endicott and Endicott (1964) studied two groups of Armed Forces personnel through an outpatient clinic. For this study only the data from the treated group will be combined with the other data. These four studies provide five groups, among which are neurotics and psychotics; and those treated by client-centered, rational-emotive, desensitization, aversion, and traditional therapeutic methods.

### *Measures of Improvement*

Each study used different but comparable measures for improvement. Cartwright (1958) had the clients rated by their own therapist on the 9-point scale devised by Seeman (1954). Those receiving 6 or above were placed in the success group; the others were in the failure group. Endicott and Endicott (1964) had the senior author, who also performed the therapy, rate their subjects using the six-category scale devised by Miles, Barrabee, and Finesinger (1951). The first three categories were combined into an improved category; the last three into an unimproved category. Subjects were included in the unimproved group if they were hospitalized during the study period. Kirkner et al. (1953) divided the case notes into three categories, recovered, improved, and unimproved, then combined the first two into an improved group. Newmark et al. (1974) used the most elaborate and strin-



ent criterion, which is an excellent model for further studies. A client was rated as improved if significant improvement occurred in at least two of three submeasures, as follows:

Comparison of pre- and post-therapy MMPIs, therapist's observation of overt behavior changes within the therapy session using a 4-point rating scale devised by Sheehan, Frederick, Rosevear, and Spiegelman (1954), and an independent interviewer who conducted pre- and post-therapy interviews using a behavior and symptom change rating scale of Miles, Barrabee, and Finesinger (1951). (p. 145)

These measures of improvement overlap each other to a considerable extent. This significant overlap permits the combination of the study data under a single criterion of improvement. This criterion is substantial improvement, which means at least both substantial symptomatic improvement and substantial improvement in at least one area of social adjustment.

### *Length of Treatment*

Each study had a wide range of treatment lengths, but comparable averages. The number of interviews by Cartwright (1958) ranged from 6 to 77 with a mean of 26. The treatment frequency was typically once a week, was estimated to average 33 weeks, and ranged from 4 to 72 weeks (Cartwright, Note 1). Endicott et al. (1964) rated their treated group after six months. The mean number of weeks in treatment was 21.2, the number of sessions ranged from 9 to 27, and therapy was once a week (Endicott, Note 2). The behavior modification group of Newmark et al. (1974) received from 11 to 29 sessions with a mean of 18.3 sessions and was estimated (Newmark, Note 3) to have a treatment range of 2 to 7 months at 1 or 2 per week. Assuming one session per week gives a mean treatment length of 18.3 weeks. The rational-emotive group of Newmark et al. (1974) received from 20 to 46 sessions with a mean of 30.7 and was estimated (Newmark, Note 3) to have a treatment range from 4 to 11 months at 1 or 2 sessions per week. Assuming one session per week gives a mean treatment length of 30.7 weeks. Kirkner et al. (1953) did not report treatment length data from the case notes they reviewed. For

four of these groups treatment averaged 25.7 weeks while ranging from 4 to 72 weeks. This allows the combination of the data under the criterion of 30 weeks of weekly therapy, which covers all the data of two groups and more than half the data of the other two groups.

### *Method*

The RPRS divisions must be slightly modified before they can be used with the empirical studies. Klopfer et al. (1951) divided the entire range of the RPRS into six groups, leaving gaps of one scale point between each group. For the present study, the first five groups have their range extended downward by one scale point to close the gaps. For example, Group III has a range of 6 to 2. Group IV has a range of 1 to -2. Thus for this study Group III will include all subjects whose score is less than or equal to 6 but greater than 1. Similarly, the other groups have their range extended downward to the upper limit of the preceding group, but will not include the upper limit of that preceding group. This downward modification creates a bias in favor of the interpretations of Klopfer et al.

This modification allows the calculation of a percentage of improvement for each of the six groups. For each of these six ranges, the number of improved clients whose score fell in that division is divided by the total number of clients whose score fell in that division. The resulting decimal is multiplied by 100 to give the percentage of improvement.

Three studies report the RPRS score of each client. From this data the percentage of improvement can be calculated directly. These are the studies done by Cartwright (1958), Kirkner et al. (1953), and Newmark et al. (1974). Endicott et al. (1964) report only the means, standard deviations, and number of clients in each group. From the means and standard deviations relative frequency distributions were calculated. Each distribution was multiplied by the number of clients in each group and rounded off, resulting in absolute distributions for each group. These absolute distributions were then treated the same as the data from the first three studies mentioned above.

### Results

The results of these calculations are presented in Table 1. The 1951 predictions of Klopfer et al. are higher than the empirically derived percentages. The vast majority of the scores also fall into groups II and III. For these reasons a second scale is proposed in Table 2.

### The Second Interpretation

The second interpretation is based on a new division of the RPRS. The new division also breaks the numerical range of the RPRS into six groups. Each group has associated with it two numbers, one larger than the other. The larger number is used to define the group's upper limit. The smaller number is used to define the group's lower limit. A subject will fall in one particular group if that subject's RPRS score is less than or equal to that group's upper limit and is greater than that group's lower limit.

These new groups form the basis for new calculations of percentages of improvement for each study. The percentages of improvement in Table 2 were calculated by the same procedure used to calculate the percentages of improvement in Table 1. Visual inspection of Table 2 suggested that the percentages within each RPRS group (i.e. across the studies) were closely grouped around a norm, and furthermore that as RPRS scores ascended, so did the percentages. The data of each of the six RPRS groups was combined by taking the simple average of the percentages appearing within that group in Table 2. These averages became the proposed percentage chances of improvement. In addition, for each group the range of the percentages was calculated. These ranges became the uncertainty ranges listed for each of the six groups. The proposed percentage chances of improvement and the uncertainty ranges for each group are the second interpretation of the RPRS.

Further inspection of the proposed percentage chances of improvement suggested that they conformed to an algebraic equation. Let  $P$  be the proposed percentage chance of improvement and  $R$  the RPRS score. Then  $P = 100\%$  for scores from 17 to 11 (i.e. for scores falling in group I);  $P$

$= 8.4 (R + 1)\%$  for scores from 11 to -1 (i.e. for groups II through V), and  $P = 0\%$  for scores from -1 to -12 (i.e. for group VI). For the scores from 11 to -1,  $P$  is a linear equation whose upper endpoint is 100% at  $R = 11$  and whose lower endpoint is 0% at  $R = -1$ . At the midpoint of each of the RPRS groups II through V, the value of  $P$  is within 6% of the proposed percentage chance of improvement of that group. For groups I and VI,  $P$  has the same value as their proposed percentage chances of improvement.

### Discussion

Several qualifications must be placed on the proposed interpretation. This interpretation should be applied with great caution to subjects at the far ends of the IQ scale (Johnson, 1953, Whiteley, 1967). This interpretation should also be used cautiously for subjects whose protocols have at least one rejection and ten or fewer responses (Bloom, 1956). Correlations between RPRS scores and therapy outcomes have not been established for these groups.

The data indicate that for any given RPRS score, the chance for improvement is approximately the same for all types of therapy, and increases as RPRS scores increase. Every therapy, in at least one RPRS group, shows a percentage of improvement that is the best in that group, or is tied with the best in that group. This uniformity is quite remarkable, considering the diversity of therapeutic technique and the time spans between the studies. The paucity of studies prevents this approximation from being more than a strong empirical trend. This trend is strong enough to justify a revision of the interpretation of Klopfer et al. in 1951. The second interpretation is offered in the same spirit as the first, in hopes of promoting further research on and clinical applications of the Rorschach Prognostic Rating Scale.

### Reference Notes

1. Cartwright, R. D. Personal communication, February 11, 1977.
2. Endicott, J. Personal communication, February, 26, 1977.
3. Newmark, C. S. Personal communication, February 10, 1977.



## References

- Bloom, B. L. Prognostic significance of the underproductive Rorschach. *Journal of Projective Techniques*, 1956, 20, 366-371.
- Cartwright, R. D. Predicting response to client-centered therapy with the Rorschach Prognostic Rating Scale. *Journal of Counseling Psychology*, 1958, 5, 11-15.
- Endicott, N. A., & Endicott, J. Prediction of improvement in treated and untreated patients using the Rorschach Prognostic Rating Scale. *Journal of Consulting and Clinical Psychology*, 1964, 28, 342-348.
- Garwood, J. A guide to research on the Rorschach Prognostic Rating Scale. *Journal of Personality Assessment*, 1977, 41, 117-119.
- Johnson, E. Z. Klopfer's Prognostic Scale used with Raven's Progressive Matrices in play therapy prognosis. *Journal of Projective Techniques*, 1953, 17, 320-326.
- Kirkner, F. J., Wisham, W. W., & Giedt, F. H. A report on the validity of the Rorschach Prognostic Rating Scale. *Journal of Projective Techniques*, 1953, 17, 465-470.
- Klopfer, B., Ainsworth, M. D., Klopfer, W. G., & Holt, R. R. *Developments in Rorschach Technique*, Vol. 1. New York: Harcourt, Brace & World, 1954, 688-699.
- Klopfer, B., Kirkner, F. J., Wisham, W., & Baker, G. Introduction: the development of a Prognostic Rating Scale. *Journal of Projective Techniques*, 1951, 15, 421.
- Miles, H. H. W., Barrabee, E., & Finesinger, J. E. Evaluation of psychotherapy. *Psychosomatic Medicine*, 1951, 13, 82-105.
- Newmark, C. S., Finkelstein, M., & Frerking, R. A. Comparison of the predictive validity of two measures of psychotherapy prognosis. *Journal of Personality Assessment*, 1974, 38, 144-148.
- Seeman, J. Counselor judgements of therapeutic process and outcome. In C. R. Rogers and Rosalind Dymond (Eds.), *Psychotherapy and personality change*. Chicago: University of Chicago Press, 1954.
- Sheehan, J. G., Frederick, C. J., Rosevear, W. H., & Spiegelman, M. A validity study of the Rorschach Prognostic Rating Scale. *Journal of Projective Techniques*, 1954, 18, 233-239.
- Whiteley, J. M., & Blaine, G. B., Jr. Rorschach in relation to outcome in psychotherapy with college students. *Journal of Consulting and Clinical Psychology*, 1967, 31, 595.

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## The Rorschach Response Process

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**Summary:** Five groups of subjects, consisting of 20 schizophrenics, 20 depressives, 20 nonpatient adolescents, and 40 nonpatient adults split at the median on the MMPI K Scale, were instructed to give as many responses as possible to each Rorschach card within a 60-second time limit per card. The average number of answers given by each group was dramatically greater than the mean number obtained under standard test conditions, with approximately two-thirds of all answers occurring during the first 30 seconds of card exposure. Evaluation of form quality shows no deterioration of goodness of fit with the increase in *R*, that is, all groups, except the schizophrenics, consistently gave good form quality answers. After testing was completed, subjects in the four adult groups were asked to select their two "best" answers to each card. The high *K* nonpatients and depressives tended to select the greatest number of Popular answers while the schizophrenics selected the fewest Populars and picked a significant number of poor form answers. In a related study, 20 therapists recruited two each of their own patients for testing. Each therapist tested one of his own patients while the second patient was tested by another therapist. Results show that therapists tend to obtain longer and more "revealing" protocols from their own patients. The findings of these studies are discussed in the context of stimulus assimilation, ranking of interpretations, and the issue of social desirability.

Any close examination of Rorschach's work inevitably leads to the conclusion that he was very intrigued with the response process in his work with inkblots. He conceptualized the response as involving basic perceptual elements; sensation, memory, and association. He suggested that the response is formulated through an associative integration of engrams with the complex sensations provoked by the components of the stimulus (1921). His work with severely impaired organics, retardates, and schizophrenics, who tended to name the blots rather than "interpret" them, led him to conclude that in those conditions, the associational element of perceptual activity failed, either by disruption or decay. He argued, quite persuasively, that an intrapsychic realization that the sensations created by the blot stimuli are not identical to the engrams is the factor that gives rise to interpretation, that is, a willingness to identify a blot or blot area as being something that it is not, but to which it has some similarity. He also suggested that it is differences in ability to *assimilate* (or differences in thresholds for assimilation) which forms the basis for the great diversification of responses that are given to the blots. It was, in fact, on this issue that Rorschach rejected the notion of projection or unconscious ele-

ments as being *clearly* influential in the formation of a response, preferring instead to view the response process as being one of perception or apperception.

While it does seem likely that Rorschach might have ultimately agreed with Frank's *projective hypothesis* (1939) as being relevant to the response process, it is doubtful that he would have embraced that notion as a *major element* in the creation of the response. Whatever might have been, had Rorschach lived longer, the question of how a Rorschach response evolves remains one of the fundamental mysteries of the test about which only limited research has been accomplished.

Stein (1949) provided some very important clues about the response process in a study in which the blots were presented tachistoscopically. He used two groups of subjects, exposing the blots to the first for a .01 second each, then repeated the exposure with each blot shown for .10 second, followed by a third exposure of 3.0 seconds, and finally exposing each blot for an unlimited time. He reversed the order of exposure times for the second group. While the study has some design problems, most centered about the immediacy of the test-retest phenomenon, his data do reveal that subjects in the *first* group were able to deliver as many as 14 answers to the 10 cards when the



blots were exposed for only .01 second each, and as many as 17 responses when the cards were exposed for only 3.0 seconds each. He also noted a significant increase in the use of form and the number of Popular answers as the exposure times were increased. In a related study, Horiuchi (1961) presented Cards III and VI tachistoscopically to groups of 80 nonpatients, 80 schizophrenics, and 80 neurotics, with exposure times of .10, .30, and 1.0 seconds, and a fourth exposure of unlimited time. Horiuchi found that approximately 60 of the 80 nonpatients, and nearly half of the schizophrenics and neurotics could give a response with the blot exposed for only .10 second, and that when the exposure time was increased to .30 second, all normals could provide a response, with approximately two-thirds of the subjects providing an answer based on more than simple form, such as including movement, color, or shading. Conversely, the schizophrenic and neurotic groups had continued difficulty defining a clear answer at the .30 exposure time, and even at the full 1.0 second exposure a few schizophrenics had difficulty in differentiating a form answer, and some of the neurotics selected answers which were not well differentiated.

The Stein and Horiuchi studies appear clearly linked to the works of Friedman (1952) and Meili-Dworetzki (1956), both of which approached the response process in the context of "differentiated" perception. Friedman, using the protocols of 30 nonpatient adults, 30 nonpatient children, and 30 schizophrenics, demonstrated that the schizophrenic perceptual operation, while quite similar to that of children in that it is global, rigid, and relatively free of differentiation, does manifest some indications of the previous higher developmental functioning, such as discreteness and plasticity at a level well beyond that of children. Friedman interpreted his findings to indicate that the regression of the schizophrenic causes a decay in the structural aspects of perception. Meili-Dworetzki, using six ambiguous figures of her own design, plus the 10 Rorschach blots, studied discrete chronological groups, ranging from 2½-years to adulthood.

She demonstrated a somewhat "natural" progression of perceptual development which at specific stages would be distinctly characterized. Her data tend to confirm that perceptual development does generally occur according to the three stages identified by Claparede in 1908, the first involving a *global* and *primitive analysis*, the second reflecting *more sophisticated analysis*, and the third stage being marked by the *synthetic activity*.

The composite of these studies appears to indicate that Rorschach answers can be developed quickly once the blot is exposed, and that the quality of the answer will usually be contingent on the level of perceptual sophistication available to the subject. There is also a variety of studies demonstrating that "external" factors can alter some features of the Rorschach response, under given conditions. For example, different instructional sets, such as asking subjects to see more details, or more things moving, will usually provoke more of the sorts of answers for which the set is established (Abramson, 1951; Coffin, 1941; Hutt, Gibby, Milton, & Potthurst, 1950). Similarly, it has been established that differences in the basic instructions for the test will influence the length of the protocol (Exner, 1974). There are several studies which reveal that both verbal and nonverbal reinforcers can alter the frequencies for some kinds of answers (Dinoff, 1960; Gross, 1959; Hersen & Greaves, 1971), and another group of studies indicate that examiner differences can promote differences among protocols (Baughman, 1951; Lord, 1950; Masling, 1965).

The literature also reveals that more subtle sets tend to have less impact on the response yield. Fossberg (1938) and Carp and Shavzin (1950) did not find differences when subjects were encouraged to give their "worst" and "best" impressions in the test. Likewise, the basic features of the protocol do not appear to be affected by ego involving sets (Cox & Sarason, 1954); when the subject is asked to respond as quickly as possible (Williams, 1954); when the test is described as one of imagination (Peterson, 1957); or when the subject is led to believe that there are

right and wrong answers (Phares, Stewart, & Foster, 1960). In two well done studies (Strauss, 1968; Strauss & Marwit, 1970), examiners were "set" to expect either high *M* or high *C* records. The results of those studies indicate that the direction of the *Erlebnistypus* was not influenced by examiner expectations, nor was the length of the protocol.

Much Rorschach interpretation proceeds on assumptions concerning the response process, although too often, those assumptions are not "spelled out" in the literature concerning interpretation. This is especially true of the interpretation of content, particularly that which is uniquely rich, wherein the assumption is that elements of identification and projection have provoked direct or indirect manifestations of self concept, conflicts, needs, etc. While many of these interpretive assumptions are derived from a reasonably sturdy body of research, most are *inferential*, that is, deduced by comparing the composite of Rorschach data for several populations with a body of valid nonRorschach information. For example, a low  $X + \%$ , in a record with a high frequency of minus responses, is generally assumed to illustrate limited perceptual accuracy or "poor reality testing." This interpretation has been pragmatically derived through extensive research with schizophrenics, a group known to misinterpret reality quite often.

Fortunately, Rorschach interpretation can proceed from propositions that are deduced from solid empirical data, such as that concerning the  $X + \%$ , but the more intriguing question lingers; namely, how does the response itself develop? Why do some subjects give very conventional and easily perceived answers, while others, responding to the very same areas, give responses that are highly unique and sometimes even very bizarre. Is this a function of different thresholds for assimilation of stimulus cues as Rorschach surmised, or is it a function of different levels of perceptual development, as Friedman and Meili-Dworetzki have demonstrated to exist? Or is it a function of projection, or is it a composite of these, or is it a function of something else? The complexity of men-

tal functioning is such that we cannot expect to resolve these questions easily, if at all, within the current parameters of research technology. It does seem important, however, to add new data concerning the response process to the limited literature now available, so as to review the inferential assumptions that have been offered, and possibly to generate new inferences from which new interpretive hypotheses may be formulated. Three interrelated studies are presented here which, as a group, shed some added light on the response process and raise some interesting issues for further research.

### *Study 1: The Range of Perceived Responses*

Every experienced Rorschacher has felt a sense of frustration when a subject, after studying a blot for a considerable period, reports he sees nothing; or gives only one response per card even though he is told that people usually see more than one thing. Brief records are difficult to interpret, and are often of questionable validity. One critical question posed by the brief record, or in the instance of the "rejected" card is whether the subject perceived more than was reported; and in fact, this same question can be extended to all protocols. In other words, does the subject see many things easily, or is there a real struggle to define one or two items that might match the blot?

It has already been demonstrated that variations in instruction and the procedure of administration can alter the average number of responses. For instance, when the inquiry is conducted after each card, as in the Rapaport (Rapaport, Gill, & Schafer, 1946) method, an average of 13 more responses will be given during the test than if the basic instructions and procedure of Rorschach are used. Even when the procedure is more like that of Rorschach, inquiring after the entire free association period has been completed, but when the subject is encouraged to deliver more responses during part or all of the free association, as in Beck (1944) or Hertz (1942), the average number of answers will be significantly greater than in records where encouragement is restricted



to only the first card (Exner, 1974). But the issue here is not whether more responses can be provoked, but rather, have those objects, and others, already been perceived but simply not reported?

In a pilot study (Exner & Armbruster, Note 1), two groups of 10 subjects each, who had volunteered to take part in a Rorschach "standardization" project, were instructed to give as many responses as they could with a time limit of 60 seconds for each card. The free association portion of the test was audio-tape recorded, with the examiner writing only the basic content of the answer rather than attempting to write the response verbatim. The inquiry was restricted to location features. One of the two groups, consisting of 10 nonpatient adult males, gave an average of 104 responses to the 10 cards. Their records ranged from 68 to 147 answers, with no fewer than six responses to any single card. The second group consisted of 10 male nonpsychotic outpatients, all having been in individual psychotherapy for at least 20 sessions. They gave an average of 113 responses, ranging from 71 to 164, with no card having fewer than six answers. While the very large number of responses was somewhat surprising, an even more unexpected finding is that fact that the form quality of the responses did not appear to deteriorate as a function of the inflated *R*. The mean  $X + \%$  for the nonpatient group is 79%, and 75% for the outpatient sample, as contrasted with mean  $X + \%$ 's of 81 and 78 respectively for similar subjects whose protocols are collected under standard conditions (Exner, Weiner, & Schuyler, 1976).

The findings of the pilot study suggest that people do see many things that they do not report; however, the small sample sizes raised some question concerning the reliability of the findings. In addition, it seemed possible that subjects might have experienced difficulty in seeing many things at the onset of the card presentation, but working under the instructional "set" were subsequently able to "find" objects that they might not ordinarily perceive without such an instructional set. Consequently, a more extensive study was completed, using larger

numbers of subjects representing more groups, and recording elapsed time more precisely by using a very sophisticated audio-tape system (Hewlett Packard 3960A).

### *Method*

Four groups of subjects were used in this study: (a) 40 adult nonpatients, ranging in age from 20 to 41 years, (b) 20 inpatient schizophrenics, ranging in age from 24 to 42 years, (c) 20 inpatient depressives, ranging in age from 29 to 51 years, and (d) 20 nonpatient children, ages 11 to 13. Each group contained 50% males and 50% females. None of the subjects had taken the Rorschach previously. Twelve experienced Rorschach examiners were used and assigned randomly to subjects, so that each examiner tested some subjects from each group, but no examiner tested more than four subjects from any single group or more than 10 subjects totally. The procedure used in taking the protocol followed the standard procedure of the Comprehensive System (Exner, 1974) except that prior to the onset of the free association, subjects were told to look at each card for 60 seconds and, during that period, report as many things as they could find; instead of introducing the first card by saying, "What might this be?". The examiner actuated the tape recorder with the introduction of each card. The recorder was inter-locked with a timer so that it stopped automatically at the end of each 60-second interval, and would not start again unless actuated again by the examiner. An inquiry, focusing primarily on location, was completed after the free association to all ten cards. The adult nonpatient group was also administered the Form R of the MMPI after the Rorschach was taken.

### *Results*

The data were summarized by counting the number of responses given by each subject, for each card, and for each of the two 30-second intervals during which the subject was responding to the card. All responses were also scored for location, form quality, content, and popularity. Determinants were not scored because most responses were very brief, and the inquiry was rarely sufficient to clarify instances where the probability of a de-

Table 1  
Mean Response Frequencies for 60 Seconds,  
and for Each 30 Second Interval,  
Plus the Range of Responses for Each of Five Groups

Group	Total R		1st 30 Seconds		2nd 30 Seconds		Range
	M	SD	M	SD	M	SD	
Non Patients, Upper Half MMPI K Scale n = 20	83.3**	9.2	61.6	8.1	21.7	4.1	56-113
Nonpatients, Lower Half MMPI K Scale n = 20	100.6	10.4	70.2	9.6	30.4	7.8	73-134
Nonpatient Children Ages 11-13 n = 20	94.1	9.8	69.6	10.4	24.5	8.3	68-129
Inpatient Schizophrenics n = 20	63.2*	9.4	40.8*	7.4	22.4	6.7	37-97
Inpatient Depressives n = 20	51.2*	7.8	31.9*	8.6	19.3	7.8	34-82

\* Significantly fewer than all three nonpatient groups at .05 level.

\*\* Significantly fewer than nonpatient adult group scoring in the lower half on the MMPI K Scale at .05 level.

terminant other than *F* was equivocal. Using the MMPI data, the adult nonpatient group was subdivided into two groups of 20 subjects each, using a median split of the *K* Scale raw scores as the basis. This subdivision of nonpatient adults was accomplished to determine if a *social desirability* set, as measured by the *K* Scale (Dahlstrom, Welsh, & Dahlstrom, 1975), might influence the number of answers given under these varied Rorschach instructions. In other words, would a tendency to respond "in a favorable light," as indicated by the higher *K* scores, tend to facilitate or inhibit the number of Rorschach answers given. The data were ana-

lyzed using an analysis of variance which yielded an *F* ratio (between groups) of 11.63 ( $p < .01$ ), followed by the Duncan Multiple Range Test to study specific differences between groups.

The average total number of responses given to all ten cards, by each group, is shown in Table 1, which also includes the average number of responses given during each of the 30-second intervals plus the range of responses given by subjects in each of the groups. It will be noted from examination of Table 1 that all groups give considerably more responses than would be expected in a protocol taken under standard conditions. It also seems



Table 2  
Mean Number of Responses Per Card For Each of Five Groups

Cards	Groups							
	Nonpatient Upper Half MMPI K Scale <i>n</i> = 20		Nonpatient Lower Half MMPI K Scale <i>n</i> = 20		Nonpatient Children Age 11-13 <i>n</i> = 20		Inpatient Schizophrenic <i>n</i> = 20	
	<i>M</i>	SD	<i>M</i>	SD	<i>M</i>	SD	<i>M</i>	SD
I	7.2	1.6	9.2	1.9	8.6	2.4	6.9	1.4
II	8.4	2.1	9.7	2.4	10.1	3.2	7.2	2.3
III	9.3	2.7	11.3**	3.2	9.3	2.1	6.8	1.4
IV	5.7	1.3	7.1	1.8	8.1	2.6	4.9	1.1
V	6.1	1.4	7.3	1.7	7.3	2.2	4.2	0.8
VI	6.8	1.9	8.6**	2.3	6.9	1.7	5.8	1.1
VII	8.2	1.6	10.4	3.2	9.6	3.3	4.2	0.9
VIII	11.5	3.1	13.5	3.6	12.8	4.2	9.7	2.9
IX	6.1	1.2	7.2	2.1	6.3	1.7	3.9	0.7
X	14.5	3.7	16.3	4.1	15.1	4.7	9.6	2.8
TOTAL	83.3	9.2	100.6	10.4	94.1	9.8	63.2	9.4
							<i>M</i>	SD
							3.1*	1.1
							4.1	1.3
							5.7	1.6
							3.6*	0.9
							5.7	1.3
							4.9	1.7
							4.0	0.8
							7.2*	1.7
							5.1	1.8
							7.8	2.3
							51.2	9.8

\* Significantly fewer responses than all other groups at .05.

\*\* Significantly more responses than all other groups at .05.

Table 3  
The Frequency of Popular Answers Plus Mean Form Quality: Three Location Areas and Two Contents For Five Groups  
Shown by First and Second 30 Second Response Intervals

30 Second Response	Nonpatients Upper Half MMPI K Scale <i>n</i> = 20		Nonpatients Lower Half MMPI K Scale <i>n</i> = 20		Nonpatient Children Age 11-13 <i>n</i> = 20		Inpatient Schizophrenic <i>n</i> = 20		Inpatient Depressive <i>n</i> = 20	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Popular Responses										
1st	7.6	1.7	7.4	2.2	7.7	2.0	4.1*	2.1	9.3	3.6
2nd	3.2	1.1	1.9	0.9	2.0	1.1	4.3*	1.7	0.9	0.7
X+%										
1st	84.7	8.4	81.3	8.2	82.7	8.1	59.1*	10.3	74.8	7.2
2nd	89.3	9.6	78.1	8.7	84.1	7.8	49.3*	11.4	68.7	8.3
W%										
1st	24.2	8.7	22.1	9.6	40.9*	11.4	29.3	9.1	32.3	11.2
2nd	9.3	2.7	8.9	3.3	17.3*	6.7	4.2	2.7	10.6	7.4
D%										
1st	67.1	14.2	66.5	11.9	58.6	10.3	49.6	13.2	56.8	9.9
2nd	74.4	12.6	76.7	14.2	69.5	11.4	59.6	10.8	60.0	10.2
Dd%										
1st	8.7	1.3	11.4	2.9	5.1	0.8	21.1*	5.2	10.9	2.4
2nd	16.3	3.8	14.7	4.4	13.2	4.1	36.2	10.7	29.4	11.6
H%										
1st	28.4	6.3	26.3	6.7	21.7	6.1	14.7	4.9	17.3	5.9
2nd	13.7	3.2	17.8	4.6	17.3	4.3	7.2*	2.3	4.1*	1.1
A%										
1st	41.3	11.2	40.6	9.7	58.4	12.1	28.1*	8.1	45.2	8.8
2nd	58.7	12.2	47.3	10.6	54.1	11.7	36.4	9.4	29.8	7.9

\* Significantly different from all other groups at .05.



apparent that most responses are formulated during a relatively brief period after the blot has been exposed. Even the depressed group, which gives the lowest average number of answers, gives nearly  $\frac{2}{3}$  of their total number of responses during the first 30 seconds, while the nonpatient groups tend to give nearly  $\frac{3}{4}$  of all their answers during the first half minute.

Table 2 shows the average number of answers given by each group for each of the ten cards. It will be noted in Table 2 that there is a considerable difference in the average number of answers per card, with Card X generally yielding the highest frequency of responses, and Cards IV, VI, and IX tending to provoke the lowest frequency. This pattern is slightly less regular among the two patient groups, with the depressives showing the fewest answers to Cards I, IV, and II, while the schizophrenics show their lowest frequency of responses to Cards IX, V, and VI. Table 3 provides information concerning the form quality of the responses, the frequency of Popular answers, and the proportions of *W*, *D*, and *Dd* locations used in each of the two 30-second response periods. These data demonstrate that the form quality tends to remain reasonably constant within each group, although as might be expected, the psychiatric groups give a significantly greater frequency of poor form responses. It is also interesting to note that the average number of Popular answers is well above the expected for each of the groups. This is particularly important among the schizophrenic group, as schizophrenics generally tend to give few Populars in a protocol taken under standard conditions. The higher proportions of *Dd* locations during the second 30-second interval seems predictable in that the subject has been asked to provide as many responses as possible, but interestingly, the proportions of *D* answers remains essentially the same for all groups when the two 30-second intervals are compared. Not shown in Table 3, but of interest, is the fact that the frequency of Space responses was generally greater during the first 30 seconds for each of the groups, with children showing the highest frequency. An examination of the contents

of responses, other than Human and Animal, reveals that the depressives tended to give significantly more Anatomy answers, schizophrenics tended to give significantly more Blood and Fire responses, and the children gave significantly more Botany and Landscape responses.

In that the data from this study support the contention that most subjects, even those who are severely depressed, do see a large number of potential responses when examining the blot, including most of the Popular answers, a second study was included to attempt to determine something about why the more pathological subjects, especially schizophrenics, usually give more unique answers under standard testing conditions.

### Study 2: Rating of Reported Responses

#### Method

All 80 adult subjects used in Study 1 were asked to review the responses they had given immediately after the inquiry for the test had been completed. The tape recording of the free association was played and the subject viewed the card. The subject was asked to judge which two, of the several responses given, he or she considered to be the *best* responses given to that card. Thus each subject selected 20 answers, two per card, that he considered the best.

#### Results

Eighteen of the 20 high *K* scale nonpatients consistently selected two good form quality answers for all ten cards. The remaining two subjects selected one good and one weak form quality answer for each of three cards. All 20 subjects from that group selected at least one Popular answer to each card. Similarly, 17 of the 20 low *K* scale nonpatients consistently selected two good form quality answers per card, while the remaining 3 selected one good and one weak form answer for each of four cards. Only 10 subjects from this group selected at least one Popular answer per card among the best given, but all used at least seven Populars among their choices. Fourteen of the depressed subjects consistently selected

two good form answers while the remaining 6 used at least one good form response per card. Eighteen of the depressives used at least nine Populars in their selection. Conversely, only 4 schizophrenics used more than four Popular responses, and none was consistent concerning the form quality of their best choices. In fact, 9 of the schizophrenics failed to select any Populars among their best answers, and 7 from this group selected more minus form quality answers than good form quality answers than good form responses as reflecting their best answers. Of the 20 schizophrenics, 13 selected at least two minus form quality responses as among their best answers, and all 20 included at least three weak form quality responses in their selections. The relatively low number of Populars selected among the "best" answers is particularly striking in light of the fact that this group averaged 8.4 Populars.

The high frequency of Popular answers among the high *K* scale nonpatients, and the depressives, when asked to rate best answers provoked a third study focusing on the issue of social desirability.

### *Study 3: Therapists Testing their own Patients*

#### *Method*

Ten therapists agreed to recruit two each of their own patients for testing. All subjects had completed between 20 and 40 individual sessions and were judged as "well motivated." Ten of the 20 patients constituted the "experimental group" and were tested by their own therapists. The remaining 10 were used as controls, and were tested by one of the other therapists. Assignment to testing was done by randomization. None of the therapists or patients was aware of the purpose of the study, all having been informed that it involved a standardization project. Prior to testing, all therapists participated in a review session to insure that all followed the standard procedures of the Comprehensive System. All testing was also audio-recorded to insure that no unusual dialogue or reinforcements occurred during administration. All pro-

ocols were scored by one of three skilled technicians, none of whom were aware of the purpose of the study.

#### *Results*

Data from this study were analyzed using a series of *F* tests for frequencies, or Chi Square analyses when proportions were involved. These analyses indicate that the records taken by therapists from their own patients differ significantly in several respects from the records of "control" subjects, who were tested by a therapist other than their own. Some of the more important differences between these two groups of protocols are presented in Table 4. It will be noted, from examination of Table 4 that the patients tested by their own therapist give significantly longer records. These longer protocols show a significantly higher frequency of *M*, chromatic color responses, blend answers, *W* and *Dd* responses, and show a somewhat lower *X* +%. Conversely, this group gives fewer Populars, fewer shading answers other than those involving texture, and significantly more sex content.

#### *Discussion*

There are at least three important conclusions that may be drawn from the collective findings of these three studies. First, and possibly most important, is the fact that all 100 subjects in Study 1 gave very large numbers of responses, considerably more than might be expected in the "typical" protocol, and these answers were delivered in a very brief time interval, suggesting that they were formulated quickly, and probably easily. The shortest nonpatient record contained 56 responses, and the shortest patient record contained 34 answers. It is also important to point out that between  $\frac{1}{2}$  and  $\frac{3}{4}$  of the answers were given during the first 30 seconds of card exposure. These data appear to provide solid evidence for the postulate that most subjects see much more in the inkblots than they report. It also seems significant that when the non-patient adults used in Study 1 were divided in terms of social desirability, as measured by another instrument, those scoring higher on this dimension gave fewer

Table 4

A Comparison of Major Structural Features For Two Groups of Outpatients,  
Half of Whom Were Tested by Their Own Therapist

Item	Tested by Own Therapist <i>n</i> = 10		Tested by Other Therapist <i>n</i> = 10	
	<i>M</i>	SD	<i>M</i>	SD
Number of Responses	34.7*	6.7	24.2	5.6
<i>M</i> Responses	7.2*	2.6	4.1	1.8
Color Responses	6.9*	2.1	3.8	1.7
Texture Responses (Shading)	3.7	0.9	3.1	1.1
Shading Responses (Excluding Texture)	1.4	0.7	3.6*	1.2
Blend Responses	7.3*	2.4	4.4	1.8
Popular Responses	5.1	1.8	7.3*	1.6
3r+(2) Index	.43	.14	.41	.11
<i>W</i> Responses	9.6*	3.1	6.4	1.7
<i>Dd</i> Responses	4.3*	1.9	2.6	0.9
Human Responses	5.9	1.3	4.6	1.2
Sex Responses	4.3*	1.7	0.8	0.5

\* Significantly larger frequency or proportion at .05.

answers and later, in Study 2, defined more Popular answers as constituting their *best* responses. These findings lend support to the contention that a social desirability factor is probably quite influential for some subjects in determining which of the several objects perceived in the blots will actually be reported during the test proper. Some added support for this contention is found in the results of Study 3 where patients responding to their own therapists gave significantly more responses and included answers of a less common content, such as sex, more often than did their controls. It seems likely that these patients were less influenced by the need to give conventional answers and more influenced by an orientation toward openness.

A second important conclusion which seems appropriate concerns the schizophrenic subjects used in Studies 1 and 2. They not only identified a reasonably high frequency of poor form quality responses while still giving an average of more than 60 answers in Study 1, but they also identified a significantly high percentage of these answers as being the *best* among all those that they had delivered. This occurred in spite of the fact that their records also averaged more than eight Popular answers, generally considered to be the most easily perceived responses in the test. These data might be used to argue against Rorschach's hypothesis concerning the inability to assimilate; or against Friedman's notion that the schizophrenic regression causes



a perceptual decay. Such an argument, however, would be very premature for neither Rorschach nor Friedman implied that the schizophrenic subject *cannot see* the same objects that are seen by others, but both argued that the schizophrenic cannot synthesize those objects in a manner that becomes personally sensible. The data here seem to support the premise that the response preference may, in some way, relate to the strong and very complex need states which are uniquely experienced by the schizophrenic, and concurrently are *overlaid* on a perceptual process which has been impaired. Whether the personal turmoil breeds the perceptual decay, or vice versa, is not clear, but the presence of both will most likely impair the ability to make sustained cognitive discriminations which are adequate. Thus, in the Rorschach, under normal testing conditions, the response which is delivered by the schizophrenic would be significantly influenced by the need to externalize and thus eliminate the sense of turmoil created by the stimulus.

Another consideration for the normal length record concerns the unique or idiosyncratic responses. Traditionally, these have been considered as the "more revealing" of the personal features of the subject. The data from these three studies tend to offer indirect support for that postulate, especially when it is considered that the unique answer is selected from a substantially broader repertoire of *available* answers. In other words, it would seem that most subjects do mentally generate several possible responses after a relatively brief cognitive scan of the blot. These potential answers are probably *classified* in some way by the subject, a process which appears to occur very rapidly in light of the results of Stein and Horiuchi plus the fact that so many answers were generated quickly by the subjects in Study 1. This classification seems influenced by a variety of factors, beginning with perceptual accuracy, and including social desirability, situational set, and personal needs. The final record then, will usually represent less than half, and in many instances less than 25% of the objects *actually seen*.

In the final analysis, the fact that the subject is selective adds considerable sturdiness to the test interpretation. The responses do not simply reflect what the subject could see in the blot, but instead represent *how he decided to use what he saw*. The very brief record, and the rejected or potentially rejected blot, may very well be manifestations of those instances where the cognitive operations of the subject fall into such a subjectively tenuous experience that the only apparent alternative still open to the subject is that of constriction or denial, neither of which truly reflects the turmoil ongoing within the subject. These brief records will continue as a source of frustration for the interpreter, but in fact, may provide a rich source of material for future research concerning the response process. In any event, it seems certain that when the subject rejects or constricts, he or she really saw much more than was delivered.

#### Reference Note

1. Exner, J. E., Jr. & Armbruster, G. L. *Increasing R by altering instructions and creating a time set*. Unpublished Workshop Study No. 209. Rorschach Workshops, 1974.

#### References

- Abramson, L. S. The influence of set for area on the Rorschach test results. *Journal of Consulting Psychology*, 1951, 15, 337-342.
- Baughman, E. E. Rorschach scores as a function of examiner differences. *Journal of Projective Techniques*, 1951, 15, 243-249.
- Beck, S. J. *Rorschach's test. I: Basic processes*. New York: Grune and Stratton, 1944.
- Carp, A. L., & Shavzin, A. R. The susceptibility to falsification of the Rorschach diagnostic technique. *Journal of Consulting Psychology*, 1950, 3, 230-233.
- Coffin, T. E. Some conditions of suggestion and suggestibility: A study of certain attitudinal and situational factors influencing the process of suggestion. *Psychological Monographs*, 1941, 53, Whole No. 241.
- Cox, F. N., & Sarason, S. B. Test anxiety and Rorschach performance. *Journal of Abnormal and Social Psychology*, 1954, 49, 371-377.
- Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. *An MMPI handbook, Volume II: Research applications* (rev. ed.). Minneapolis: University of Minnesota Press, 1975.
- Dinoff, M. Subject awareness of examiner influence in a testing situation. *Journal of Consulting Psychology*, 1960, 24, 465.
- Exner, J. E. *The Rorschach: A comprehensive system*. New York: Wiley, 1974.

- Exner, J. E., Weiner, I. B., & Schuyler, W. A. *Rorschach workbook for the comprehensive system*. Bayville, N. Y.: Rorschach Workshops, 1976.
- Fossberg, I. A. Rorschach reactions under varied instructions. *Rorschach Research Exchange*, 1938, 3, 12-30.
- Frank, L. K. Projective methods for the study of personality. *Journal of Psychology*, 1939, 8, 389-413.
- Friedman, H. Perceptual recognition in schizophrenia: An hypothesis suggested by the use of the Rorschach test. *Journal of Genetic Psychology*, 1952, 81, 63-98.
- Gross, L. Effects of verbal and nonverbal reinforcement on the Rorschach. *Journal of Consulting Psychology*, 1959, 23, 66-68.
- Hersen, M., & Greaves, S. T. Rorschach productivity as related to verbal reinforcement. *Journal of Personality Assessment*, 1971, 35, 436-441.
- Hertz, M. R. The scoring of the Rorschach inkblot method as developed by the Brush Foundation. *Rorschach Research Exchange*, 1942, 6, 16-27.
- Horiuchi, H. A study of perceptual process of Rorschach cards by tachistoscopic method on movement and shading responses. *Journal of Projective Techniques*, 1961, 25, 44-53.
- Hutt, M., Gibby, R. G., Milton, E. O., & Pottharst, K. The effect of varied experimental "sets" upon Rorschach test performance. *Journal of Projective Techniques*, 1950, 14, 181-187.
- Lord, E. Experimentally induced variations in Rorschach performance. *Psychological Monographs*, 1950, 60, Whole No. 316.
- Masling, J. Differential indoctrination of examiners and Rorschach responses. *Journal of Consulting Psychology*, 1965, 29, 198-201.
- Meili-Dworetzki, G. The development of perception in the Rorschach. In B. Klopfer and others (Eds.), *Developments in the Rorschach technique: Volume II. Fields of application*. Yonkers-on-Hudson, N. Y.: World, 1956.
- Peterson, I. C. *The effects of instruction variations on Rorschach responses*. Unpublished Master's thesis, Ohio State University, 1957.
- Phares, E. J., Stewart, L. M., & Foster, J. M. Instruction variation and Rorschach performance. *Journal of Projective Techniques*, 1960, 24, 20-31.
- Rapaport, D., Gill, M., & Schacter, R. *Diagnosis: psychological testing* (Vol. 2). Chicago: The Yearbook Publishers, 1946.
- Rorschach, H. *Psychodiagnostics*. Bern: Birkhäuser, 1921 (Transl. Hans Huber Verlag, 1942).
- Stein, M. I. Personality factors involved in the temporal development of Rorschach response. *Rorschach Research Exchange*, 1949, 13, 39-414.
- Strauss, M. E. Examiner expectancy: Effects on Rorschach experience balance. *Journal of Consulting Psychology*, 1968, 32, 125-129.
- Strauss, M. E., & Marwit, S. J. Expectancy effect in Rorschach testing. *Journal of Consulting and Clinical Psychology*, 1970, 34, 448.
- Williams, M. H. The influence of variations in instructions on Rorschach reaction time. *Dissertation Abstracts*, 1954, 14, 2131.

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## **Reality Testing and Rorschach Perceptual Regression in Female Patients**

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*Summary:* In an effort to study the relationship between severity of psychological disturbance and developmental level scoring of the Rorschach, 43 female psychiatric inpatients were divided into two groups based on whether or not they were displaying behavioral evidence of poor reality testing. As expected, the poor reality testers group produced a significantly greater percentage of responses at the lowest developmental level (amorphous responses). The more intact group produced a greater percentage of vague responses, as would be anticipated in patients tending off further regression or emerging from a regressive state. Findings add to the information available on the developmental system's utility within clinical settings and its applicability to female patients.

One of the major purposes of Friedman's (1952) Rorschach Developmental Level (DL) scoring system was to evaluate the level of an individual's cognitive functioning within the framework of Werner's (1948) theory of cognitive development. In essence, the theory states that development from childhood to maturity follows an orthogenetic principle. That is, a prescribed sequence from synthetic, diffuse, labile, and rigid modes of functioning to discrete, articulated, stable, and flexible modes. One outcome of having a Rorschach measure of developmental level has been the establishment — on an empirical basis — of a link between this theory of cognitive development and the regression theory of psychopathology. It follows from a regression theory of psychopathology that severe mental disorder is characterized by ego functioning of a developmentally low level. Presumably this lower level of ego functioning would be reflected in Rorschach responses scored for developmental level.

By using the Rorschach Test as a measure of the perceptual aspects of ego functioning, Friedman (1952) compared a group of hebephrenic and catatonic schizophrenics with a group of normal adults and a group of normal children. He found that the performance of the schizophrenic group was significantly different from normal adults and not distinguishable from the performance of children on a variety of measures of the structural aspects of perceptual functioning. From this, he concluded that schizophrenics

exhibit a perceptual regression which is not total, but which leaves remnants of higher levels of functioning. These findings were later generalized to patients diagnosed as paranoid schizophrenic when Lebowitz (1963) demonstrated that this group of patients obtained developmentally lower scores than normal adults.

Furthermore, a good deal of solid evidence has been gathered to indicate that the DL scoring system of the Rorschach can differentiate among pathological groups. Siegel (1953) found that paranoid schizophrenics functioned at a higher perceptual developmental level than did hebephrenic and catatonic schizophrenics. This was interpreted as evidence of less regression in paranoid schizophrenics. Becker (1956) classified his schizophrenic subjects into "process" and "reactive" types on the basis of their prepsychotic personalities and discovered that the more process-like schizophrenics received significantly lower DL scores on the Rorschach than did the more reactive-like patients. Later studies offered confirmation of Becker's findings (Fine & Zimet, 1959; Zimet & Fine, 1959). Focusing on a longitudinal study of regression, rather than the typical cross-sectional approach, Glatt and Karon (1974) were also able to demonstrate that for non-medicated schizophrenics in treatment, increasing maladjustment coincided with more infantile levels of cognitive-perceptual functioning while improved adjustment coincided with functioning at more mature levels.



There seems to be little argument, at this point in time, concerning either the evidence of regression of ego functions in schizophrenia or the use of Friedman's DL scoring of the Rorschach as an optimal measure of the developmental level of functioning. As Goldfried, Stricker, and Weiner (1971) point out, "the research failures with the developmental scoring have been comparatively few" (p. 54). Most of the research, however, has focused on the differentiation of pathological from nonpathological groups or between pathological groups that are obviously widely divergent in psychological functioning and behavioral symptomatology. While these differentiations may be appropriate for validating certain Rorschach variables as measures of cognitive and perceptual functioning, they impose certain limitations on the usefulness of such instruments in actual clinical practice. Clinicians working in psychiatric facilities are very infrequently called upon to make such differentiations as pathological versus nonpathological. Indeed, by definition, the population that they are most often asked to evaluate represents some sort of psychopathology continuum. Reviewers have noted a strong need for further research investigating the relationship between severity of psychological disturbance and developmental scoring of the Rorschach.

One of the purposes of the present research, therefore, was to test the validity of the Rorschach DL scoring system in a sample of patients where delineations were based on a finer discrimination of psychopathology than is presently represented in the literature. Further, instead of distinguishing patient groups on the basis of nosological categories, it was decided to group patients on the basis of behavioral symptomatology. This allowed for clearer, more focused operational definitions of the ego functions the DL system was supposed to differentiate. Consistent with the hypothesis that the more severe the pathology, the more extreme the regression, it was felt that patients with the most severe behavioral symptoms would be operating at a developmentally less mature level than disturbed patients with less deteriorated ego

functioning. More specifically, within the present study patients were divided into groups based solely on the presence or absence of behaviors reflecting poor reality testing. It was predicted that patients showing behavioral evidence of poor reality testing would also show significantly greater evidence of low level developmental responses on the Rorschach.

Another major criticism that has been leveled against the developmental scoring system is that most of the research to date has concentrated on males, raising the question of whether the scoring system can be validly applied to females. Although the present research does not directly address itself primarily to this issue, it was felt that we could indirectly contribute to the resolution of the sex generalizability of the developmental scoring system in that the sample of patients under study was limited to females. This limitation was consistent with the bias of the inpatient setting from which the patients were drawn where approximately 70 to 75% of the patient population at any one time is female.

### Method

#### Rorschach DL Scoring System

The Friedman (1952) scoring criteria were employed for all Rorschach data. In this system, location scores are used and classified according to the perceptual level of ambiguity, diffuseness, inappropriateness, articulation, and integration. Each response is sorted into one of the following categories (listed in terms of increasing developmental maturity): amorphous Whole (*WA*), amorphous Detail (*Da*), vague Whole (*Wv*), vague Detail (*Dv*), minus Whole (*W-*), minus Detail (*D-*), mediocre Detail (*Dm*), mediocre Whole (*Wm*), plus Detail (*D+*), plus Whole (*W+*), plus-plus Detail (*D++*), and plus-plus Whole (*W++*). On the basis of greater differentiation and integration, responses scored as mediocre, plus, or plus-plus are conceptualized as mature and those scored vague, minus, or amorphous are categorized as immature. For the present study, the percentage of developmentally mature Whole responses ( $\text{Mature } W / \text{Total } W$ ) and the percentage

of developmentally mature Detail responses (Mature *W*/Total *D*) were computed. Also, calculated was the percentage of each type of *W* response to total *W* and the percentage of each type of *D* response to total *D*.

### *Subjects*

The subject sample consisted of 43 female inpatients on the psychiatric service of a State University Hospital who were consecutively referred for psychological evaluation over a 2-year period. Although the original subject pool consisted of 62 inpatients, 19 were eliminated from the study either because of confirmed neurological involvement or because the Rorschach data were incomplete. The mean age of the patients was 28.2, the mean educational level was 12.8 years and 9 out of the 43 patients (21%) had histories of previous hospitalization.

All subjects were administered the Rorschach Inkblot Test under standardized conditions by clinical psychology interns and all protocols were scored according to the criteria set forth by Friedman (1952). Scoring was then independently checked by a faculty diagnostic supervisor and again by one of the authors with special efforts to ensure consistency of scoring standards. Previous studies have shown the DL system to be highly reliable with interscorer reliabilities ranging from 89.7 to 95.5 (Goldfried, Strickler, & Weiner, 1971).

### *Symptom Checklist*

A symptom checklist was developed by the authors to assess levels of ego function impairment on the basis of specific behavioral symptoms. This checklist was based on previously published scales of ego functions (Bellak, Hurvich, & Gediman, 1973; Semrad, Grinspoon, & Fienberg, 1973) and was intended to represent a continuum of psychopathology among the inpatient group.<sup>1</sup>

The authors independently reviewed the hospital and ward records of each of

the patients involved in the present study and rated the symptom categories on the checklist as present or absent. Since the unit from which patients were drawn is primarily a teaching unit, all chart notes were unusually thorough and up-to-date, with all progress notes and summaries checked by supervising staff. The chart information made it possible to rate every patient on each of the categories of the symptom checklist. The interrater reliability obtained by means of a tetrachoric correlation was .94. After the reliability of the ratings was determined, any problems or questions in rating specific patients were discussed and a mutual rating decision was arrived at. There was a mean of 6.0 symptom categories endorsed for each patient with a range of 2 to 9 symptoms present.

For the purposes of this study however, the focus was on a differentiation of those patients with the most severe behavioral symptoms and ego function deterioration from those with less severe deterioration. For this reason, division of the patients into groups was made exclusively on the basis of only one of the categories of the checklist, namely the presence or absence of poor reality testing. The presence of this symptom was reflected by reported hallucinations, delusions, grandiosity, depersonalization, bizarre psychomotor activity, and ideas of reference.

### *Analysis of Data*

Nineteen patients were characterized by the presence of poor reality testing, while 24 patients showed no evidence of this severe symptom of regression. The two groups did not differ significantly in age, education, frequency of previous hospitalization, or number of symptoms present from the checklist. An analysis was then done to determine whether there were any significant differences between these two groups on any of the Rorschach variables under question. As already noted, all Rorschach scores were transformed into percentage form to control for number of responses. There was no significant difference between the two groups for the total number of responses given on the Rorschach.

<sup>1</sup> There were a total of 14 categories in the symptom checklist as follows: poor reality testing, disorganization, inappropriate affect, poor object relations, motor difficulties, neurological signs, poor impulse control, somatic concerns, depression, anxiety, anger/excitability, dependency, sexual disturbances, and marital problems.

Table 1

Means and Standard Deviations for the Percentage of Rorschach Responses Falling into Each DL Scoring Category

Type of Response	Reality Testing				t
	Disturbed Group		Intact Group		
	M	SD	M	SD	
Mature Responses					
Wmat/W	56.79	27.13	63.08	26.47	0.75
Dmat/D	63.21	17.70	63.17	18.00	0.01
W++/W	7.21	10.23	3.17	7.95	1.42
D++/D	1.26	2.24	.79	2.66	0.60
W+/W	12.16	14.47	9.79	13.02	0.55
D+/D	22.42	24.06	21.50	19.49	0.14
Wm/W	37.26	25.89	50.67	26.40	1.63
Dm/D	39.37	19.13	40.67	24.00	0.19
Immature Responses					
Dv/D	9.63	7.17	18.37	16.49	2.10*
Wv/W	17.32	16.13	14.12	17.50	0.60
D-/D	20.63	10.11	18.50	15.77	0.49
W-/W	11.95	15.36	22.29	25.89	1.50
Da/D	6.00	14.73	.20	.99	2.15*
Wa/W	11.68	20.70	0.0	0.0	2.70*

\* p < .05

\*  $p < .05$ .

### Results

Table 1 presents the means and standard deviations for the percentage of Rorschach responses falling into each of the DL scoring categories within each group. Tests of significance are also presented. It can be seen that the two inpatient groups differ significantly on only three of the Rorschach DL variables: amorphous Whole responses (*Wa*), amorphous Detail responses (*Da*) and vague Detail responses (*Dv*). Those patients who were rated as having reality testing impaired gave significantly more *Wa* and *Da* responses and significantly fewer

*Dv* responses than the comparison inpatient group rated as having reality testing intact. Indeed, of the 24 female inpatients without severe symptoms of poor reality testing, not one patient produced a *Wa* response on the Rorschach and only one patient produced a *Da* response. Thus it would seem that while the absence of amorphous responses could not rule out the presence of severe ego regression, the production of such responses, at least in a population of patients similar to those employed in this study, can be seen as an index of perceptual functioning indicating severe deterioration of ego function.



ing and loss of contact with reality. Focusing on a Bayesian approach to probability statistics and utilizing the results obtained, it can be shown that in a population where the base rate of severe impairment of reality testing is .45, the probability of someone falling into the poor reality testing group, given the production of amorphous responses on the Rorschach, is .94.

The production of *Dv* responses in each of the two groups under study was not widely disparate. Approximately the same percentage of patients in each group produced such responses. However, the average percentage of *Dv* responses per record was significantly higher in the group without severe symptoms of poor reality testing (see Table 1). This difference between groups becomes clearer when one looks at the range of percentages of *Dv* responses for each group. For the group rated as having severe disturbance in reality testing, the range was from 0 to 22 percent. For the less disturbed group the range was from 0 to 67 percent with 7 out of 24 of these patients producing over 25% of their Detail responses in vague form.

### Discussion

It seems clear from the findings of the present study that the validity of the Friedman DL scoring system of the Rorschach maintains itself even in a generally disturbed population where fine delineations of pathology are made. Although overall measures of perceptual developmental maturity (percentage *Dmat* and *Wmat*) were not significantly different between groups, an index of severe regression — percentage of amorphous responses — was indeed a successful discriminator. It should also be pointed out that although a normal control group was not employed for this study, comparison of the attained values of the Rorschach variables with those obtained by Friedman (1952) using samples of normal adults and schizophrenics quickly revealed that the entire sample of patients studied more closely resembles Friedman's schizophrenic group. In essence there seems to be no doubt that the sample utilized for this study was characterized by a level of psychopathology that could easily be

differentiated from a group of normal adults on the basis of Rorschach DL scores.

Within this sample, only developmental indices of severity of regression (immature responses) showed differences between the groups. It is not surprising, and very consistent with theory, that the most severely disturbed and most regressed of the inpatient population could be differentiated on the basis of those DL scoring variables that are seen as developmentally the least mature: amorphous responses. Also consistent with Friedman's theorizing is the finding that the more intact group produced a higher percentage of vague responses. Vague responses reflect some minimal form requirements for the percept and are hypothesized to represent a "less specifically structured" view of the world than do more mature types of responses. However, they do not represent as severe a distortion of reality as do either minus or amorphous responses. In essence, they reflect a level of perception that occupies an intermediate position between the gross reality distortions of severe regression and the accurate, differentiated perceptions of developmental maturity. Thus, vague responses are typically hypothesized to exemplify either the ongoing process of fending off a further regression or the reconstituting process occurring during the emergence from a regressive state. This theorizing suggests that patients not displaying behavioral symptoms of severe ego regression, but who nonetheless require inpatient psychiatric care, would be more likely to evidence vague responses to the Rorschach than inpatients displaying more regressive symptoms. This hypothesis is supported by the present findings.

The fact that the DL scoring system has again withstood a test of validity—this time within a sample of female patients—should help in answering the question of sex generalizability of the system. Although the present study was not conceived to answer this question specifically, the findings support the utility of this Rorschach system with female inpatients. However, we are quite convinced of the need for additional research

on the DL scoring system with female populations to further clarify the nature and extent of the system's application across sex. This becomes particularly cogent when one realizes that in many institutional inpatient settings, the proportion of female to male patients is quite high.

After summarizing the research findings on developmental scoring, Goldfried, Stricker, and Weiner (1971) conclude that more information is needed concerning the system's utility within clinical settings and its applicability to females. Hopefully, the findings presented in this study will aid in future discussions of these issues.

#### References

- Becker, W. C. A genetic approach to the interpretation and evaluation of the process-reactive distinction in schizophrenia. *Journal of Abnormal and Social Psychology*, 1956, 53, 229-236.
- Bellak, L., Hurvich, M., & Gediman, H. K. *Ego functions in schizophrenics, neurotics, and normals*. New York: Wiley, 1973.
- Fine, H. J., & Zimet, C. N. Process-reactive schizophrenia and genetic levels of perception. *Journal of Abnormal and Social Psychology*, 1959, 59, 83-86.
- Friedman, H. Perceptual regression in schizophrenia: An hypothesis suggested by the use of the Rorschach test. *Journal of Genetic Psychology*, 1952, 81, 63-98.
- Glatt, C. I., & Karon, B. P. A Rorschach variation study of the ego regression theory of psychosis. *Journal of Consulting and Clinical Psychology*, 1974, 42, 569-576.
- Goldfried, M. R., Stricker, G., & Weiner, I. B. *A Rorschach Handbook of Clinical and Research Applications*. Englewood Cliffs, N.J.: Prentice Hall, 1971.
- Lebowitz, A. Patterns of perceptual and motor organization. *Journal of Projective Techniques*, 1963, 27, 302-308.
- Semrad, F. V., Grinspoon, L., & Fienberg, S. Development of an ego profile scale. *Archives of General Psychiatry*, 1973, 28, 70-77.
- Siegel, E. I. Genetic parallels of perceptual structuralization in paranoid schizophrenia: Analysis by means of the Rorschach technique. *Journal of Projective Techniques*, 1953, 17, 151-160.
- Werner, H. *Comparative psychology of mental development* (rev. ed.). Chicago: Follett, 1943.
- Zimet, C. N., & Fine, H. J. Perceptual differentiation and two dimensions of schizophrenia. *Journal of Nervous and Mental Disease*, 1959, 111, 435-441.
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## Handwriting as a Correlate of Extraversion

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**Summary:** The validity of graphologists' claims that handwriting is a measure of extraversion was examined in this study. Three handwriting measures, line slope, letter slant, and letter width were chosen, and the relationship between these measures and extraversion as measured by the Eysenck Personality Inventory was studied. The subjects were 58 tertiary students. No significant correlations between the handwriting measures and extraversion were found, nor were there significant intercorrelations between the three handwriting measures. Thus the results did not support the claim that the three handwriting measures were valid indices of extraversion.

Graphology as a credible index of personality has intrigued researchers for many decades. Two main schools of graphology have evolved since the pioneering work of Klages.

One is the Gestalt oriented school, where research has concentrated on determining the writer's personality traits using general impressions gained from the writing. These are combined into a total impression of the writer's personality, as perceived by the handwriting judge(s). Research methods developed by this school are holistic, their purpose being to determine whether handwriting provides information about a given personality trait, with no attempt to specify individual handwriting characteristics.

Secord (1949) has noted of the holistic method, "Graphologists are somewhat more successful than untrained judges (who achieved results slightly above chance), in matching handwriting with personality sketches or expressions, but both untrained judges and graphologists make a large proportion of incorrect matches" (p. 440).

The second graphological school is analytical. Here, emphasis is placed on objective measurement of individual handwriting characteristics so that the appearance of an individual handwriting characteristic such as length of t-crossbars, or of slant of writing can be related to the appearance of some nonhandwriting characteristic such as a personality trait.

The main emphasis in atomistic research has been the relating of various handwriting measurements to different personality variables. Results from these

studies are inconclusive due, in part, to lack of precision in measurement, both of handwriting characteristics and other indices of the personality traits in question. Harvey (1934) identified a number of different measures of handwriting such as word spacing, small letter height and i-dot altitude. He found low but positive correlations between these measures and two personality traits, ascendance and psychoneurosis. Lorr, Lepine and Golder (1954) intercorrelated 16 graphological measurements and 13 personality variables, without significant results, and Pascal (1943) correlated personality variables with specific handwriting variables with inconclusive results.

Epstein and Hartford (1959) found some association between beginning strokes of writing and emotional maturity. Other studies show less specific, slightly significant correlations between personality traits and writing signs (e.g. Lemke & Kirchner, 1971; Pang & Lepponen, 1968).

Cohen (1973), reviewing earlier research, found only one personality trait for which significant relationships with handwriting characteristics consistently occurred, that of extraversion. Graphological literature defines three handwriting signs as indicators of extraversion, wide large handwriting, right-slanted writing and upward sloping alignment (Kurdson, 1971; Olyanova, 1972; Singer, 1972; White, 1974). The postulated reason for the relationship is the expansive nature, energy and animation of extraverts in comparison with introverts (Olyanova, 1972). Although there is some evidence for handwriting as a predictor



of extraversion, most research has been inconclusive and fragmentary. There remains also the problem of measuring extraversion in a valid, nongraphological way, to provide the criterion against which to measure the graphological variables.

In the present study, the Fysenck Personality Inventory (FPI) was used as an objective measure of extraversion. The advantages of the FPI are that it has been standardized for a number of different populations and its reliability and validity have been rigorously demonstrated (Fysenck & Fysenck, 1964). Using the FPI, the validity of graphologists' claims that extraverts have wide, right-slanted and upwardly sloping writing was tested.

In addition, because the prediction of sex of writer from handwriting characteristics has been the focus of some research this variable was included in the study. Although Fluckiger, Tripp and Weinberg (1961) summarize earlier results as not having a high enough level of accuracy to justify the use of handwriting to infer the sex of the writer, Lemke and Korchner (1971) found the most significant correlations in their study to be between sex and different handwriting variables. It may be that accurate prediction depends on the handwriting measure used or on an interaction between sex of writer with personality characteristics. This possibility was examined in the present study.

Finally, because each of the three handwriting measures used in the study is claimed to measure extraversion, it was hypothesized that there would be positive and significant correlations between the three handwriting signs.

### Method

#### Subjects

The subjects were 40 males and 30 females from first-year psychology classes at Melbourne State College. Of these, 12 were rejected because of high scores (more than 5) on the faking good scale on the FPI. Thus data were obtained from 58 students, 32 males and 26 females. The mean age of the subjects was 19.1 years.

#### Procedure

Subjects were asked to copy a typed

passage onto unlined paper with their own pens, in their normal handwriting. The passage contained 250 words and was selected because it was descriptive and contained no emotional content. There was no time limit although subjects were told it should not take them longer than 10 minutes. When they had finished the task, they were given the EPI which they were asked to complete, as well as supplied details of age, sex, and handedness.

The copied passages were then scored by the second author for letter slant, letter width and line slope, based on the scoring method outlined by Harvey (1934). Letter slant was measured by taking the mean of six letter slopes measured in degrees from the right, relative to the line drawn parallel to the bottom edge of the script. Line slope was measured by taking the mean of the slopes representing the best fit to the base lines in the first half of every line, measured in degrees relative to the line drawn parallel to the bottom edge of the page. Letter width was measured by taking the mean width of 120 letters included in the 16 random selected, marked words scattered throughout the script. The lengths of these words were measured in millimetres, totalled and divided by 120. The EPI was then scored for extraversion. As only 5% (n = 3) of the sample were lefthanded and the writing styles were indistinguishable from the righthanded subjects it was concluded that handedness was not a confounding variable.

Two measures of reliability were obtained. The handwriting measures were rescored by the first author and product-moment correlations between the first and second scores were calculated. All correlations were above .91, indicating that the scoring procedures were reliable. In addition, the passages were rescored for letter slant and letter width using different letter slopes and words respectively. Line slope was rescored using the second half of every line as the base measure. Product-moment correlations between the scores for letter slant, letter width and line slope were .92, .82, and .91 respectively. Thus the handwriting measures can be considered reliable.

Table 1  
Mean Scores and Values of *t* for Extraversion  
and Handwriting Measures as a Function of Sex

Score	Male		Female		<i>t</i> ( <i>df</i> = 56)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Extraversion	13.13	3.22	11.88	3.64	1.36
Letter Width (mm)	2.98	0.48	3.07	0.57	0.67
Letter Slant (°)	73.16	20.46	85.81	18.34	2.41*
Line Slope (°)	-0.27	1.39	-0.34	1.53	0.18

\*  $p < .05$ .

### Results

Differences between the scores of males and females on each measure were examined using *t* tests. Table 1 shows the mean scores and values of *t*. There were no significant differences between males and females other than for letter slant. The data shows that males wrote with a greater slant to the right than did females.

Table 2 shows the correlations between FPI extraversion scores and the handwriting measures. No correlations were significantly different from zero nor were there any significant differences between correlations for males and females. It can be concluded, therefore, that the data do not support the claim that letter slant, letter width and line slope are correlates of extraversion. Moreover, it is clear that the three handwriting measures are not related.

### Discussion

The results indicate that prediction of sex of writer by handwriting measures has uncertain validity. Although one of the three measures did discriminate between male and females, there is scanty and inconsistent literature on the issues of sex differences in handwriting. More importantly, the present data do not support graphologists' claims that extraverts' handwriting is wide, right-slanted and upwardly sloping. Indeed, the results suggest that the claims of the graphological

literature should be regarded with scepticism. This is especially so in light of Latt's similar finding of no significant correlation between extraversion and letter width (Latt, 1967) and the finding of a significant inverse relationship between extraversion and line slope (Cohen, 1973).

The hypothesis that the three handwriting measures would be highly correlated was rejected. The lack of significant intercorrelations is important since it has been claimed that personality traits may be described best by clusters of handwriting variables rather than linearly indicated by one measure (e.g. Pascal, 1943). The present study provides no support for such a claim. Because the correlations between the handwriting measures were so low it was not possible to develop a single index from the three measures which would predict extraversion more accurately than each of the measures separately.

The weight of evidence from this and other studies indicates that there are severe limitations to graphologists' claims. When objective measurement of handwriting rather than subjective judgment is used and when the existence of personality trait is measured by an objective test as well as handwriting signs, the results are negative. If this is so even when the relationship examined is the one most consistently described in the graphological literature i.e., between extraversion and handwriting, then predictions derived

Table 2  
Product-moment Correlations Between Extraversion and Three Handwriting Measures

	Letter Width			Letter Slant			Line Slope		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Extraversion	.07	.08	.06	.15	.25	.13	.14	.07	.11
Letter Width				.31	-.04	.16	-.15	.28	.07
Letter Slant							.06	-.10	-.08

from graphology must be considered as having dubious validity.

#### References

- Cohen, R. *Patterns of personality judgments*. New York: Academic Press, 1973.
- Epstein, L., & Hartford, H. Some relationships of beginning strokes in handwriting to the human figure drawing test. *Perceptual and Motor Skills*, 1959, 9 55-62.
- Eysenck, M. J., & Eysenck, S. B. G. *Manual of the Eysenck Personality Inventory*. London: University of London Press, 1964.
- Fluckiger, F. A., Tripp, G. A., & Weinberg, G. H. A review of experimental research in graphology 1933-1960. *Perceptual and Motor Skills*, 1961, 12, 67-90.
- Harvey, O. L. The measurement of handwriting considered as a form of expressive movement. *Character and Personality*, 1934, 2, 310-321.
- Kurdsen, S. *Graphology: The New Science*. New York: Galahad Books, 1971.
- Lemke, E. A., & Kirchner, J. H. A multivariate study of handwriting, intelligence and personality correlates. *Journal of Personality Assessment*, 1971, 35, 584-592.
- Lorr, M., Lepine, L. T., & Golder, J. B. A factor analysis of some handwriting characteristics. *Journal of Personality*, 1954, 22, 348-353.
- Olyanova, N. *Handwriting tells*. Hollywood: Wiltshire, 1972.
- Pang, H., & Lepponen, L. Personality traits and handwriting characteristics. *Perceptual and Motor Skills*, 1968, 26, 1082.
- Pascal, G. R. The analysis of handwriting: A test of significance. *Character and Personality*, 1943, 12, 123-144.
- Secord, P. F. Studies of the relationship of handwriting to personality. *Journal of Personality*, 1949, 17, 430-448.
- Singer, E. *A manual of graphology*. London: Duckworth, 1972.
- Taft, R. Extraversion, neuroticism, and expressive behavior: an application of Wallach's moderator effect to handwriting analysis. *Journal of Personality*, 1967, 35, 570-584.
- White, F. *Handwriting secrets*. London: Everest Books, 1974.

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## Differentiation of Brain Damage Among Low IQ Subjects With Three Projective Techniques

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**Summary.** Using a battery of three projective techniques (Rorschach, Hand Test, Bender-Gestalt) only slight discrimination was found between low IQ subjects classified according to the presence or absence of brain trauma (exogenous vs endogenous), while substantial discrimination was obtained between the same subjects categorized in terms of "lower" (60-74) and "higher" (75-89) FS WAIS IQ. All four groups used in this study had been first equated on sex and age. Results were interpreted as supporting the position that some sort of brain impairment underlies most or all retardation. Question was raised concerning the efficacy of projective techniques for diagnosing organicity in subjects of average or better intelligence.

While it is known that projective techniques can differentiate the brain damaged from other normal and abnormal groups (e.g. Bowland & Deabler, 1956; Hain, 1964; Hartlage, 1966; Hertz & Loehrke, 1955; Hughes, 1948; Piotrowski, 1936; Slack, 1951; Wagner & Murray, 1969), it has also been established that organic impairment tends to lower the IQ (e.g. Klebanoff, Singer, & Wilensky, 1954; Morrow & Mark, 1955; Robinson & Robinson, 1976; Williams, Lubin, & Grieseking, 1959) and the question, therefore, arises as to what extent this kind of discrimination can be made when intelligence is held constant, particularly among low IQ subjects where the variance attributable to intelligence is relatively small. This study addresses itself to that question by comparing the discrimination obtained among low IQ subjects divided according to the presence or absence of brain trauma (exogenous vs. endogenous) with the differentiation found when the same subjects are regrouped into "higher" and "lower" IQ status.

### Method

For this study a *low IQ subject* was defined as an individual with a Wechsler Adult Intelligence Scale Full Scale IQ of from 60 through 89. Of these subjects, those who gave no historic evidence of having experienced brain trauma were classified as *endogenous* while those who had suffered medically verified brain trauma were categorized as *exogenous*. Subjects numbering 100 were obtained, ranging in age from 16 to 55 years. They were selected from a pool of individuals

who had been referred to one of the authors (EEW) for testing and evaluation from various sources such as neurologists, psychiatrists, and the local Bureau of Vocational Rehabilitation.

There were 50 trauma cases in the sample, the nature of the brain damage being allowed to vary widely so as not to bias the results in favor of a specific neurological deficit. Of the 50 trauma cases, 6 resulted from infection or intoxication, 31 from trauma due to a physical agent, 3 from metabolic and growth factors, 5 from brain disease, and 5 from a prenatal disease or condition.

The subjects were divided into four groups according to IQ and the presence or absence of verified brain damage. Group 1 consisted of the trauma cases with IQs ranging from 75 to 89; Group 2, trauma cases with IQs from 60 to 74; Group 3, nontrauma cases with IQs from 75 to 89; Group 4 nontrauma cases with IQs from 60-74. By pre-selection there were 15 males and 10 females in each of the four groups. The ages were, also by design, quite similar: Group 1,  $\bar{X} = 25.7$ , S. D. = 10.6; Group 2,  $\bar{X} = 24.6$ , S. D. = 9.6; Group 3,  $\bar{X} = 24.6$ , S. D. = 6.5; Group 4,  $\bar{X} = 24.1$ , S. D. = 8.7. With *df* between groups equal to 3 and *df* within groups equal to 96 the F test for the Analysis of Variance among ages was nonsignificant ( $F = 0.142, p = 0.931$ ). Also, *t* values comparing the IQs and subtest scaled scores for the trauma cases (groups 1 and 2) and the nontrauma cases (groups 3 and 4) were all nonsignificant (see Table 1).<sup>1</sup> The tests used as predictors were the Bender-Gestalt (tabulated according to the Pas-

Table 1

Means, Standard Deviations, *t* Values and *p* Values  
Comparing WAIS Scores for the Trauma (T, *n* = 50)  
and Nontrauma Group (NT, *n* = 50)

Variable		Mean	S.D.	<i>t</i>	<i>p</i> (two-tailed)
VIQ	T	78.1	10.3	.93	0.355
	NT	76.2	9.4		
PIQ	T	73.5	9.9	-1.23	0.223
	NT	76.0	10.2		
FSIQ	T	74.7	8.8	0.14	0.888
	NT	74.5	8.2		
Information	T	6.1	2.3	1.49	0.139
	NT	5.4	2.0		
Comprehension	T	5.8	2.4	- .40	0.688
	NT	6.0	2.0		
Arithmetic	T	5.2	2.0	.81	0.418
	NT	4.8	2.4		
Similarities	T	6.0	3.0	-1.12	0.267
	NT	6.6	2.8		
Digit Span	T	6.6	2.3	0.69	0.491
	NT	6.2	2.3		
Picture Completion	T	5.9	2.5	-0.78	0.438
	NT	6.3	1.7		
Block Design	T	5.8	2.1	-0.49	0.624
	NT	6.0	2.7		
Picture Arrangement	T	5.9	1.9	-0.44	0.664
	NT	6.0	2.1		
Object Assembly	T	5.6	2.4	-1.05	0.298
	NT	6.2	2.6		

Table 2

Two Multiple Rs Predicting Trauma vs. Nontrauma Groups  
and Higher vs. Lower IQ Groups for 100 Low IQ Subjects

Criterion Groups	Predictor Variables	<i>R</i>	<i>F</i>
Trauma vs. Nontrauma	1. Description (Hand Test)	.231	5.529
	2. Acquisition (Hand Test)	.316	5.393
	3. Exhibition (Hand Test)	.370	5.084
Higher IQ vs. Lower IQ	1. Bender-Gestalt score	.448	24.673
	2. Interpersonal (Hand Test)	.517	17.676
	3. <i>DS</i> + <i>S</i> (Rorschach)	.578	16.035
	4. <i>M</i> (Rorschach)	.604	13.671
	5. <i>C</i> (Rorschach)	.630	12.411
	6. Exhibition (Hand Test)	.655	11.651

call-Suttell method), the Hand Test, and the Rorschach. The tests were all scored prior to the conception of this study.

Only quantitative variables were entered into the final correlational matrix, various qualitative indicators such as "impotence" being sacrificed in order to insure objectivity and replicability. Also, those variables which occurred too infrequently to be of any discriminatory value were eliminated from the statistical analysis. In all, 55 variables were retained.<sup>2</sup> In order to test whether, for low IQ subjects, a projective battery could discriminate between groups separated in terms of the presence or absence of brain trauma, a multiple correlation was computed for the test variables against the 2-point criterion of trauma (groups 1 and 2) versus nontrauma (groups 3 and 4). It was also possible to determine how sensitive the test battery was to intelligence alone by predicting the 2-point criterion of "higher" IQ (groups 1 and 3) versus "lower" IQ (groups 2 and 4). Because of the non-parametric characteristics of much of the data, all variables were first ranked and then Spearman Rhos were calculated and used to arrive at the final Rs.

### Results

Stepwise regression was employed to compute the Rs, with the incremental process being halted when the accompanying *F* value fell below a *p*. value of .05. As can be seen from Table 2, three variables significantly contributed to the prediction of the trauma vs. nontrauma distinction, producing a final *R* of .370, while six variables contributed to the prediction of the low vs. the high IQ groups generating a final *R* of .655. In terms of variance the prediction of intelligence was over three times greater than that of brain damage. It should be noted in passing that a perusal of the intercorrelation matrix indicated that a large number of variables (20 in all) were modestly albeit significantly correlated with intelligence (see Table 3). But, as usually happens, there was much overlap among predictors and only a relatively few variables contributed uniquely to the *R*. On the other hand, only four variables were significantly correlated with the trauma criterion and about two or three would be expected by chance anyway (see Table 4). In fact, in generating the *R*, two of the variables included (ACQ and EXH)



Table 3

Correlations of Predictor Variables With Intelligence Criterion

Variable		Rho	<i>p</i>	Variable		Rho	<i>p</i>
Age		.045	NS	AIRT		-.033	NS
Bender-Gestalt		-.448	.01	<i>W</i>		.137	NS
Hand Test	AFF	.086	NS	<i>D</i>		.048	NS
	DEP	.183	NS	<i>M</i>		.265	.01
	COM	.178	NS	<i>FM</i>		.114	NS
	EXH	.118	NS	$\Sigma C$		.160	NS
	DIR	.290	.01	$\Sigma c$		.246	.05
	AGG	.313	.01	<i>A%</i>		-.125	NS
	INT	.339	.01	<i>F%</i>		-.234	.05
	ACQ	.152	NS	<i>F+%</i>		.174	NS
	ACT	.315	.01	<i>D S + S</i>		-.092	NS
	PAS	.094	NS	FAIL		-.152	NS
	ENV	.333	.01	<i>D + De + Dd + d</i>		.147	NS
	TEN	.095	NS	$\Sigma m$		.209	.05
	CRIP	.066	NS	<i>F</i>		.218	.05
	FEAR	.070	NS	<i>F±</i>		-.023	NS
	MAL	.110	NS	$\Sigma c'$		.242	.05
	DES	-.284	.01	<i>FC</i>		.192	NS
	FAIL	-.145	NS	<i>CF</i>		.025	NS
	BIZ	.142	NS	<i>C</i>		.177	NS
	WITH	-.316	.01	<i>H</i>		.281	.01
	REPT	.111	NS	<i>Hd</i>		.126	NS
	<i>R</i>	.297	.01	<i>A</i>		.185	NS
	AIRT	-.061	NS	<i>Ad</i>		.095	NS
	<i>H-L</i>	-.097	NS	Xray		-.019	NS
	PATH	-.234	.05	Obj		.102	NS
Rorschach	<i>R</i>	.266	.01	Content Range		.325	.01
	<i>P</i>	.252	.05				

Table 4  
Correlations of Predictor Variables With Trauma Criterion

Variable		Rho	<i>p</i>	Variable		Rho	<i>p</i>
Age		.045	NS	AIRT		-.121	NS
Bender-Gestalt		.011	NS	<i>W</i>		-.036	NS
Hand Test	AFF	-.137	NS	<i>D</i>		.022	NS
	DEP	-.109	NS	<i>M</i>		.077	NS
	COM	-.136	NS	<i>FM</i>		-.114	NS
	EXH	-.190	NS	$\Sigma C$		.052	NS
	DIR	.013	NS	$\Sigma c$		-.118	NS
	AGG	-.013	NS	<i>A%</i>		-.043	NS
	INT	-.144	NS	<i>F%</i>		.016	NS
	ACQ	.175	NS	<i>F+%</i>		-.084	NS
	ACT	-.008	NS	<i>DS + S</i>		-.123	NS
	PAS	-.070	NS	FAIL		.091	NS
	ENV	.017	NS	<i>D + De + Dd + d</i>		-.038	NS
	TEN	-.065	NS	$\Sigma m$		.041	NS
	CRIP	.049	NS	<i>F</i>		-.114	NS
	FEAR	.023	NS	<i>F±</i>		.010	NS
	MAL	-.016	NS	$\Sigma c'$		-.203	.05
	DES	.231	.05	<i>FC</i>		.064	NS
	FAIL	.067	NS	<i>CF</i>		.042	NS
	BIZ	-.142	NS	<i>C</i>		.016	NS
	WITH	.230	.05	<i>H</i>		.021	NS
	REPT	-.138	NS	<i>Hd</i>		-.042	NS
	<i>R</i>	-.031	NS	<i>A</i>		-.163	NS
	AIRT	-.111	NS	<i>Ad</i>		-.054	NS
	<i>H-L</i>	.023	NS	Xray		-.006	NS
	PATH	.203	.05	Obj		.020	NS
Rorschach	<i>R</i>	-.123	NS	Content Range		.014	NS
	<i>P</i>	-.166	NS				

were not even significant at the .05 level.

### Discussion

The differentiation between the trauma and nontrauma groups was rather low and may not even survive cross-validation, particularly the last two variables which were not significant and would not seem to be logically related to brain damage. However, discrimination between the higher and lower IQ groups was fairly substantial and it is interesting to note that the Bender-Gestalt, a test which is often regarded as an indicator of brain damage, yielded the highest loading. These results would seem to indicate that projective techniques are more sensitive to the effects of a reduction in IQ than to other factors associated with brain damage. It also raises the question as to how effective projective techniques might be in diagnosing brain impairment in a subject of normal or bright normal intelligence although with individuals of higher IQ, qualitative signs of organicity may be more abundant.

Another possible implication of these data might be that brain dysfunction is inextricably involved with mental retardation and that, other things being equal, the lower the IQ the more serious the brain impairment. The suggestion that there is a relationship between neurological "intactness" and level of IQ is not new (e.g., Wagner & Hawver, 1965) and the general notion that all mental retardates may be brain damaged has been advocated by many authors. Lewis (1933) suggested the possibility, and Carter (1966) succinctly stated that "There are two fundamental causes of mental retardation that, kept in mind, make the entire field much easier to understand" (p. 6). These two forms are (a) those who have experienced inadequate formation of normal brain tissue, due to any etiology, and (b) those who have undergone damage or destruction of existing brain tissue. Small (1973), Kennedy (1968), Thomas (1969), Kirman (1974), Birch, Richardson, Baird, Horobin, & Illsley (1970), and others have discussed the association of cultural-familial forms of mental retardation with low socioeconomic status, positing the possibi-

ties that pre-peri-, and post-natal factors related to nutrition, health, and stimulus deprivation may insidiously produce neurologic deficits. Such an explanation would be entirely consistent with these results. Unless one is willing to assume that the psychological effects of brain damage are so subtle and idiosyncratic as to elude detection by a projective test battery which is fairly sensitive to modes of variations in IQ, it seems reasonable to postulate that brain dysfunction may be inextricably involved with mental retardation and that, other things being equal, the lower the IQ the more serious the brain impairment.

<sup>1</sup> This finding is in itself of interest suggesting that, where the kind of brain impairment is allowed to vary, there is distinctive subtest patterning which distinguishes organic subjects from subjects with equally low IQs.

<sup>2</sup> The entire intercorrelation matrix, covering over 80 pages can be provided on request.

### References

- Birch, H. G., Richardson, S. A., Baird, D., Horobin, G., & Illsley, R. *Mental subnormality in the community: A clinical and epidemiological study*. Baltimore: Williams and Williams, 1970.
- Bowland, J. A., & Deabler, H. L. A Bender-Gestalt diagnostic validity study. *Journal of Clinical Psychology*, 1956, 12, 82-84.
- Carter, C. H. *Handbook of mental retardation, syndromes*. Springfield: Charles C. Thomas, 1966.
- Hain, J. D. The Bender-Gestalt test: A scoring method for identifying brain damage. *Journal of Consulting Psychology*, 1964, 28, 34-40.
- Hartlage, L. Common psychological tests applied to the assessment of brain damage. *Journal of Projective Techniques & Personality Assessment*, 1966, 30, 319-338.
- Hertz, M. R., & Loehrke, L. M. An evaluation of the Rorschach method for the study of brain injury. *Journal of Projective Techniques*, 1955, 19, 416-430.
- Hughes, R. M. Rorschach signs for the diagnosis of organic pathology. *Rorschach Research Exchange and Journal of Projective Techniques*, 1948, 12, 165-167.
- Kennedy, W. A. Cultural deprivation: Its role in central nervous system functioning. In Khanna, J. L. (Ed.) *Brain damage and mental retardation: A psychological evaluation*. Springfield: Charles C. Thomas, 1968.
- Kirman, B. H. Individual differences in the mentally subnormal. In Clarke, A. M., & Clarke, B. D. *Mental deficiency: The changing outlook*. New York: Free Press, 1974.
- Klebanoff, S. G., Singer, J. L., & Wilensky, H. Psychological consequences of brain lesions and ablations. *Psychological Bulletin*, 1954, 51, 1-41.



- Lewis, E. D. Types of mental deficiency and their social significance. *Journal of Mental Science*, 1933, 79, 298-304.
- Morrow, R. S., & Mark, J. C. Intelligence of patients autopsied for brain damage. *Journal of Consulting Psychology*, 1955, 19, 283-289.
- Piotrowski, Z. A. On the Rorschach method and its application in organic disturbances of the central nervous system. *Rorschach Research Exchange*, 1936, 1, 23-29.
- Robinson, N. M., & Robinson, H. B. *The mentally retarded child*. New York: McGraw Hill, 1976.
- Slack, C. W. Some intellectual functions in the Thematic Apperception Test and their use in differentiating endogenous feeble-mindedness from exogenous feeble-mindedness. *The Training School Bulletin*, 1951, 47, 157-169.
- Small, L. *Neuropsychodiagnosis in psychotherapy*. New York: Brunner Mazel, 1973.
- Thomas, E. W. *Brain-injured children: With special reference to Doman-Delacato Methods of treatment*. Springfield: Charles C. Thomas, 1969.
- Wagner, E. E., & Hawver, D. A. Correlations between psychological tests and sheltered workshop performance for severely retarded adults. *American Journal of Mental Deficiency*, 1965, 69, 685-691.
- Wagner, E. E., & Murray, A. Y. Bender-Gestalts of organic children: Accuracy of clinical judgment. *Journal of Projective Techniques and Personality Assessment*, 1969, 33, 240-242.
- Williams, H. L., Lubin, A., & Grieseking, C. F. Direct measurement of cognitive deficit in brain-injured patients. *Journal of Consulting Psychology*, 1959, 23, 300-305.
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## The Power Motive, *n* Power, and Fear of Weakness

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**Summary:** Among 85 male undergraduates, high need for power as measured by the 1968 Winter scoring system is shown to relate to high drinking frequency ( $p < .01$ ), high alcohol consumption ( $p < .05$ ), and taking the first drink at age 16 or less ( $p < .05$ ), to the Disinhibition ("Swinger") factor on Zuckerman's Sensation Seeking Scale ( $p < .05$ ); to poor academic performance ( $p < .05$ ); and to generate a regression equation with the California Psychological Inventory that suggests qualities of personal disorderliness and intellectual aggression. These findings, considered in terms of power motive theory, are seen as replicating earlier evidence that high *n* Power is maladaptive, voyeuristic and power avoidant.

The power motive is one of the three principal fantasy-based motive measures (achievement, affiliation and power motives; Atkinson, 1958) developed by McClelland and his co-workers in the 1950s. Though both Veroff (1958) and Winter (1973) formulated their measures of the power motive in terms of social forcefulness and leadership, the action correlates of high need for power (*n* Power) remained unclear. The numerous studies Winter reviews to support the proposition that "persons with high need for power would more often seek and occupy positions of high social power" (Winter, 1973, p. 38) are counterbalanced by many others (Veroff & Veroff, 1971) indicating that

power motivation occurs in status groups that are concerned about their weakness; ...is correlated with positive social performance and adjustment when the power demands are not publicly salient;...and can lead to avoidance of the power situation, including self-destruction. (p.59).

Also see Veroff and Feld (1970, especially p. 283; Veroff & Veroff, 1972).

This paper attempts, in the light of current theory, to resolve some of these difficulties by distinguishing between the power motive and *n* Power, and then by defining some of the anomalies in the *n* Power scoring systems. It presents new findings on the link between *n* Power and fear of weakness and suggests that maladaptive need for power is reinforced by inputs from the mass communication media.

Although the terms "power motive" and "need for power" are used in the literature as interchangeable synonyms, they are not equivalent. Implicit in the most recent study (McClelland, 1975) is the suggestion that the power motive is a universal human attribute expressed in one of four modalities at each of four different levels of maturity. Need for power, on the other hand, as measured by the content analysis of fantasy protocols, is biased towards the self-expressive modalities of assertive power (McClelland, 1975, p. 41). Need for power should therefore be seen as only one expression of the power motive, rather than as co-extensive with it.

The tension between "high social power" and "concern with weakness"—and indeed between the power motive and *n* Power—may be traced to anomalies in all three need for power scoring systems (Veroff, 1958; Winter, 1973; Note 1) which, despite claims to the contrary, produce almost identical scores (Nell, 1975). These anomalies relate to four broad areas. Both the Veroff and Winter manuals make it clear the "power" they refer to is phenomenal power in the real world of people and events. Yet the construct validity of their measure is not tested against external criterion groups rated as (or seen to be) high on the motive as defined. Moreover, Winter's requirement that a series of arousal procedures be used, "each sampling the broad domain of power in a slightly different way" (1973, p. 39), has not been met: Indeed, the arousal procedures

used by Veroff and by Winter to develop power-sensitive scoring systems have been widely criticised (Minton, 1967; Uleman, 1972; Veroff & Veroff, 1971, 1972). Thirdly, the content analysis procedures laid down by the *scoring manuals* fail to distinguish between hero and victim (Skolnick, 1966b, p. 391), and between latent and manifest power (Minton, 1967); and they admit "psychologically irrelevant" material (Murray, 1943, p. 14) for scoring, thus further confounding the complex relations between fantasy products and behavior (Holt, 1961; Klinger, 1971; Lazarus, 1966; Skolnick, 1966a).

Finally, by tracing the origins of the scoring manuals to Murray's *Explorations in Personality* (1938), from which they derive their nomenclature and working hypotheses, certain contradictions inherent in the *n* Power measure may be demonstrated. Though Murray assigned discrete status to the needs for achievement and affiliation, power is not separately named and described. Almost the entire content of *n* Power in the Veroff and the Winter manuals derives from a cluster of five needs set out as two pairs of opposites (Dominance and Deference; Aggression and Abasement) on either side of Autonomy (Murray, 1938, Chap. 3). Some attributes of Murray's *n* Dominance, which may readily be traced in both the Winter and Veroff scoring systems, are: to control one's human environment; to influence or direct others by suggestion, seduction, persuasion or command; and to convince others of the rightness of one's opinion. Further power imagery categories derive from Murray's *n* Aggression, *n* Sex and *n* Exhibition. But the traits which are semantically — and behaviorally — opposed to Dominance and Aggression also supply some power imagery criteria: *n* Deference (to admire and support a superior, to yield eagerly to influence, to hero-worship, elect to high office) besides forming part of Winter's Category 1 power imagery (strong, forceful actions) also parallels Category 2 (arousing strong emotions); *n* Abasement (to submit passively, to admit inferiority, error or defeat) parallels Category 3 power imagery (concern for reputation or position).

The cumulative effect of these anomalies has not been to vitiate the *n* Power measure entirely, but to render it almost exclusively sensitive to the fantasy component of power — that despondent striving, peculiar to the ineffectual, for impact and influence, which nervously shies away from the actual exercise of control or aggression. Recent studies have demonstrated two separate components in the power motive termed either "personalized" and "socialized" power (McClelland, Davis, Kalin, & Wanner, 1972) or "hope of power" and "fear of power" (Winter, 1973). McClelland et al. (1972) have demonstrated an important link between low-inhibition, personalized power and heavy drinking (see Klebanoff, 1947, for an early indication of the alcohol-power fantasy link). However, even the unfractionated measure of power has been shown (Winter, 1973, p. 81) to predict the behaviors associated with "hope of power." One of the aims of the present study was to show that this unfractionated measure, despite its overt associations with dominance and influence, is an indicator of behavior that is personally, socially and academically maladaptive, power avoidant and voyeuristic.

### Method

#### Subjects

The subjects were 85 English-speaking male undergraduates (mean age 19.2 years,  $SD = 1.2$ ), a subgroup of all first-year students participating in a compulsory orientation program conducted by the University of Port Elizabeth in the week before commencement. Females and Afrikaans speakers were excluded from the present study because of the difficulties associated with the interpretation of female fantasy protocols (McClelland, 1966; Veroff, Atkinson, Feld, & Gurin, 1960), and value and attitude differences between English and Afrikaans speakers (e.g. Morse & Orpen, 1975).

#### Procedure

A six-item test battery was administered in the following sequence: biographical questionnaire; picture story test for the power motive; Protestant Ethic Scale (Mirels & Garrett, 1971); Sensation Seek-



ing Scale (Zuckerman, 1971); Child Report of Parent Behavior Inventory (Schaefer, 1965); and the California Psychological Inventory (CPI) (Gough, 1957). The first five items were administered during a two-hour morning session and the CPI on the afternoon of the same day. All subjects completed the tests except for eight incomplete CPI, seven Parent Behavior Inventory and four Sensation Seeking Scale protocols.

In 1975, an average academic score was computed for each subject based on final examination results calculated separately for the subjects' first and third years of study (1972 and 1974); the normal study period for a South African bachelor degree is three years. Students who did not write examinations in either 1972 or 1974 were assigned a zero grade for that year.

The biographical questionnaire was compiled to elicit information in areas which, according to the literature, were relevant to the need for power — drinking habits, sport and committee activity, and reading habits.

The picture story test consisted of seven pictures presented in the following sequence: 1. Conference group with seven men around table (83); 2. Four soldiers in battle gear; 3. Lawyer's office, two men talking (5); 4. Ship's captain at wheel talking to man in suit; 5. Man and woman in restaurant, violin player behind them; 6. Father and children seated at breakfast table (102); 7. Mad scientist examining test tube by the light of a candle.

The numbers in brackets refer to the listing of sources in Atkinson (1958, App. 3), while pictures 2, 4, 5, and 7 are described in Winter (1973, Note 1). The originals of 2, 4, and 5 were unobtainable at the time of testing and a skilled graphic artist was commissioned to draw pictures matching the descriptions in the Winter practice materials. Of these substitutes (available on request), Picture 2 had near zero cue value and was not scored, while pictures 4 and 5 functioned well, eliciting 52.9% and 30.6% power imagery respectively. Mean power imagery for the six pictures scored was 42% ( $SD = 10.46$ ). The instructions to subjects were adapted from Atkinson (1958, p. 48), and scoring was carried out by the first author, who

met the criteria for reliability in Feldt and Smith (1958). Two *n* Power scores were computed for each subject: imagery only by counting one for each protocol that was scored for power imagery, regardless of subcategory scoring; and total score by summing imagery and subcategory scores on each protocol. The first of these scores (i.e. disregarding subcategories) correlated highly with the total scores and had a slightly higher split-half reliability. It was therefore used in all subsequent computations.

Although the experimental design called for administration of the test to subjects whose power motivation had not been experimentally aroused, it is doubtful whether a non-aroused state exists in relation to thematic apperception because of this method's notorious sensitivity to environmental cues and mood fluctuations. In the present study, subjects' concerns at the time of testing were clearly reflected in protocol content, notably concern with academic success standards with an emphasis on social rather than autonomous achievement values (Strumpf, 1975); and anxiety at being away from home (44% of subjects were living in on-campus hostels or in lodgings). Accordingly, the Mad Scientist (Picture 7) was respectfully described as a professor of a cancer researcher whose work would be of great significance to humanity. Similarly, in protocols to Picture 4 (Ship's Captain), the student-passengers frequently sought reassurance from the helmsman asking him if the boat was off course and if it would survive the coming storm. Others tried to persuade the helmsman to turn back because they were on the wrong boat or had forgotten their identity documents ashore. The emphasis on good luck and on being in the hands of unknown authority figures both underscore the significance of Rotter's external locus of control dimension in power-cued protocols (Rotter, 1966).

## Results

Significant relationships were found between *n* Power scores and items on the biographical questionnaire, CPI and Sensation Seeking Scale, and with the 1972

average academic score. None were found with the Protestant Ethic Scale, Parent Behavior Inventory or 1974 average academic score.

On the biographical questionnaire, *n* Power means were significantly higher ( $df=84$  in all instances) for subjects with high drinking frequency ( $t=2.849, p<.01$ ), high alcohol consumption per session ( $t=2.603, p<.05$ ) and for subjects who had taken their first drink at age 16 or less rather than at a later age, or who did not recall their starting age (Ullman, 1952) ( $t=2.234, p<.05$ ). For both drinking frequency and quantity the cut-off points used in computation of *t* were selected a priori. For frequency, it fell between once a week or more often and once a month or less often; and for quantity consumed per session, the cut-off was between three or more drinks per session and one or less. Contrary to Winter's findings (1973), no significant differences in mean *n* Power scores were found for subjects whose mothers had more years of education than their fathers; for the number of sports played, frequency of playing, or type of sport (loner, team, or exhibitionist); nor with the number of nonfiction books or of novels that subjects read.

Pearson correlations ( $df=75$  in all instances) between *CPI* scales and *n* Power were significant for Flexibility ( $r=.30, p<.01$ ), Self-Control ( $r=-.29, p<.01$ ), and Well-Being ( $r=-.26, p<.05$ ). Good Impression ( $r=-.19$ ) and Communality ( $r=-.21$ ) correlated at  $p<.10$ . Gough argues that "a yield of low-magnitude relationships is frequently encountered with criteria not bearing a one-to-one relationship to any single scale of the inventory" (1968b, p. 23). To select the optimum subset of *CPI* scales for identifying subjects high on *n* Power, a multiple stepwise regression analysis (following Gough, 1968a; 1968b; 1969) was carried out and the following equation, restricted to the best five variables, was computed:

$$n \text{ Power} = 7.022 + .068 \text{ Flexibility} - .089 \text{ Self-Control} + .136 \text{ Tolerance} - .074 \text{ intellectual Efficiency} - .105 \text{ Communality}.$$

The constant of 7.022 is such that the computed *CPI* scale values for an array of subjects will tend to converge on that group's

mean *n* Power score. Inserting the sample mean values for the given five *CPI* scales in the above equation yields a value of 2.469, slightly higher than the true *n* Power mean of 2.455, but within acceptable limits for a five term regression on an 18-item matrix.

The equation's direction of weighting favors Tolerance and Flexibility, disfavoring Communality, Self-Control and Intellectual Efficiency. Reference to the adjective pools which Gough (1957; 1968b) has assembled for high and low scorers on the *CPI* scales allows the following impressionistic resumé of high scorers on the regression equation: adventurous, with broad and varied interests; informal and lacking in self-discipline, impulsive, and disorderly; intellectually able, clear-thinking and insightful, but also aggressive, assertive, shrewd, deceitful, and cynical, overemphasizing personal pleasure and self-gain. These adjectives appear to relate to dimensions of personal disorderliness and of intellectual aggression. The picture that emerges is of an intellectually gifted and emotionally rich person at war with himself, with insight turned to guile and assertiveness to cynical selfishness. The portrayal is supported by drawing a *CPI* profile of the mean scale scores of the seven subjects in the 90th centile of the power score distribution. The profile peaks on Self Acceptance, Social Presence and Flexibility, and reaches its lowest point on Responsibility; it is depressed across all the measures of socialization, maturity and responsibility (Gough's Class II measures). In this context, it should also be noted that the power motive does not relate to the *CPI* leadership index developed by Gough (1969).

On the *Sensation Seeking Scale*, *n* Power correlated significantly with the Disinhibition factor,  $r(79) = .24, p<.05$ . Zuckerman terms this the "Swinger" factor, expressing the hedonistic "Playboy" philosophy of "heavy social drinking, variety in sexual partners, wild parties and gambling" (Zuckerman, 1971, p. 47).

Need for power related to average academic score at the end of the first year of study, yielding significant negative correlations for all faculties combined,  $r(81)$

$= -.23, p < .05$ , and for students of commerce,  $r(19) = -.53, p < .02$ . Relations for other faculties (general humanities, law, science, and engineering) were non-significant though all negative. None of the relations between *n* Power and average academic score in the final year of study were significant.

### Discussion

The CPI characterisation of *n* Power as conflicted and undersocialized, and its relation to poor academic performance, tend to support the view that the power motive should be seen as concern with weakness. Moreover, the finding by McClelland et al. (1972) that Winter's "stud behaviors" (exploitive sex, prestige possessions, gambling, fast driving and vicarious experience — especially through reading erotic "girlie" magazines) are identified with low-inhibition power, is supported in the present study both by the link between *n* Power and drinking frequency, quantity and early starting age; and by the relationship between *n* Power and the Sensation Seeking Scale's Disinhibition factor, which incorporates most of the stud behaviors. Indeed, these ostensibly assertive and virile activities may be more correctly conceptualized as voyeuristic, that is, low-risk activities with a high stimulus value.

The foregoing findings on *n* Power furnish a striking parallel with the "Don Juan modality" first described by Winter (1973), and later characterized by McClelland in the following terms: "He brags, lies, deceives, tricks, disguises himself, seduces women and murders rivals" (1975, p. 20). The present findings are also consistent with McClelland's recent conclusion (1975, p. 37) that among college freshmen, the modal expression of power is at the early (Stage II) maturity level at which the source of power is found in the self and the individual satisfies his need to feel stronger through prestige possessions or by better control over his body; at this stage, men reject institutional responsibility, control anger and spend more time with the opposite sex at parties.

### Conclusions

Despite the shortcomings of the fantasy-

based method, arbitrary scoring and inadequate validation, the Veroff-Winter measure of *n* Power consistently predicts a coherent behavior-cluster — even in the present culturally distinct sample of South African undergraduates. Among these behaviors are violence, assertiveness and deceit, which are goal-effective in fantasy, but maladaptive in real life producing the extensively documented approach-avoidance conflict characteristic of the power motivated (McClelland et al., 1972; Skolnick, 1966a; Veroff & Feld, 1970; Veroff & Veroff, 1972; Winter, 1972). Its barroom symbol is the clenched fist of anger raised against an adversary who has already walked out of the door.

It might prove fruitful to speculate that the cultural antecedents of this widespread and behaviorally coherent pattern are to be sought in the ubiquitous inputs of the mass communication media. Clearly, the values central to the need for power are mediated by the news and entertainment media: that violence is masculine and problem-solving, that casual sex is more fun than commitment, that impact and acclaim are more valuable than constancy and responsibility, that dull reality falls short of the gee-whiz newsmaker's world of ephemera (Boorstin, 1964). Because the power scoring manual is a way of life for journalists (they offer unsolicited help and advice, persuade and regulate others, arouse strong emotions, and are highly concerned with reputation and position) it may be hypothesized that journalists' power fantasies (cf. Pool & Shulman, 1959; Talese, 1970), projected through the mass media, shape the fantasy life of susceptible others towards an internalization of power motive values and action patterns through a process that might be termed *media motivation*. An important effect of the mass media may thus lie in the formation of authoritative (though maladaptive) value systems. At the same time, the media-created folklore of power supports the prestige-possession industries (i.e. those that make cuff links or motor cars whose form and price are unrelated to their function, but say of their owner: "See who I am: I am somebody"); and supports the alcohol-and-girlie



branch of the entertainment industry, which in its bars, brothels, cabarets, and casinos links the fantasy-rich worlds of alcohol, sex, and gambling.

### Reference Note

- I. Winter, D. G. *A revised scoring system for the need for power*. Unpublished manuscript, Wesleyan University, 1968.

### References

Atkinson, J. W. (Ed.) *Motives in fantasy, action and society: A method of assessment and study*. Princeton, N. J.: Van Nostrand, 1958.

Boorstin, D. J. *The image: A guide to pseudo-events in America*. New York: Harper & Row, 1964.

Feld, S., & Smith, C. P. *An evaluation of the objectivity of the method of content analysis*. In J. W. Atkinson (Ed.), *Motives in fantasy, action and society*. Princeton, N. J.: Van Nostrand, 1958.

Gough, H. G. *Manual for the California Psychological Inventory*. Palo Alto, California: Consulting Psychologists Press, 1957.

Gough, H. G. College attendance among high-aptitude students as predicted from the California Psychological Inventory. *Journal of Counselling Psychology*, 1968, 15, 269-278. (a)

Gough, H. G. An interpreter's syllabus for the California Psychological Inventory. In P. Reynolds (Ed.), *Advances in psychological assessment*, Vol. 1. Palo Alto: Science and Behavior Books, 1968. (b)

Gough, H. G. A leadership index on the California Psychological Inventory. *Journal of Consulting Psychology*, 1969, 16, 283-289.

Holt, R. R. The nature of TAT stories as cognitive products: A psychoanalytic approach. In J. Kagan & G. Lesser (Eds.), *Contemporary issues in thematic apperceptive methods*. Springfield, Ill.: Charles C. Thomas, 1961.

Kiebanoff, S. G. Personality factors in symptomatic chronic alcoholism as indicated by the Thematic Apperception Test. *Journal of Consulting Psychology*, 1947, 11, 111-119.

Klinger, E. *Structure and functions of fantasy*. New York: Wiley-Interscience, 1971.

Lazarus, R. S. Story telling and the measurement of motivation: The direct versus substitutive controversy. *Journal of Consulting Psychology*, 1966, 30, 483-487.

McClelland, D. C. Longitudinal trends in the relation of thought to action. *Journal of Consulting Psychology*, 1966, 30, 479-483.

McClelland, D. C. *Power: The inner experience*. New York: Irvington Publishers, 1975.

McClelland, D. C., Davis, W. N., Kalin, R., & Wanner, E. *The drinking man*. New York: Free Press, 1972.

Minton, H. L. Power as a personality construct. In B. A. Maher (Ed.), *Progress in experimental personality research*, Vol. 4. New York: Academic Press, 1967.

Merels, H. L., & Garrett, J. B. The protestant ethic in a personality variable. *Journal of Consulting and Clinical Psychology*, 1971, 36, 40-44.

Morse, S. J., & Orpen, C. (Eds.), *Contemporary South Africa: Sociopsychological perspectives*. Cape Town: Juta, 1975.

Murray, H. A. *Explorations in personality*. New York: Oxford, 1938.

Murray, H. A. *Thematic Apperception Test manual*. New York, 1943.

Nell, V. The Veroff-Winter power motive as a personality construct. Unpublished master's thesis, University of Port Elizabeth, 1975.

Pool, I. de Sola & Shulman, I. Newsmen's fantasies, audiences and newswriting. *Public Opinion Quarterly*, 1959, 23, 145-158.

Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 1966, 80, (1, Whole No. 609).

Schaefer, E. S. Children's reports of parental behaviour: An inventory. *Child Development*, 1965, 36, 413-424.

Skolnick, A. Motivational imagery and behavior over twenty years. *Journal of Consulting Psychology*, 1966, 30, 463-468. (a)

Skolnick, A. Stability and interrelations of motivational imagery over twenty years. *Child Development*, 1966, 37, 389-396. (b)

Strümpfer, D. J. W. Scales to measure autonomous and social achievement values. *Psychological Reports*, 1975, 36, 191-208.

Talese, G. *The kingdom and the power*. New York: Bantam, 1970.

Uleman, J. S. The need for influence: Development and validation of a measure and comparison with the need for power. *General Psychological Monographs*, 1972, 85, 157-214.

Ullman, A. D. The psychological mechanisms of alcohol addiction. *Quarterly Journal for Studies of Alcohol*, 1952, 13, 602.

Veroff, J. Development and validation of a projective measure of power motivation and A scoring manual for the power motive. In J. W. Atkinson (Ed.), *Motives in fantasy, action and society*. Princeton, N. J.: Van Nostrand, 1958.

Veroff, J., Atkinson, J. W., Feld, S. C. & Gurin, G. The use of thematic apperception to assess motivation in a nationwide interview study. *Psychological Monographs*, 1960, 74, (12, Whole No. 499).

Veroff, J., & Feld, S. C. *Marriage and work in America*. New York: Van Nostrand, 1970.

Veroff, J., & Veroff, J. B. Theoretical notes on power motivation. *Merrill Palmer Quarterly*, 1971, 17, 59-69.

Veroff, J., & Veroff, J. B. Reconsideration of a measure of power motivation. *Psychological Bulletin*, 1972, 78, 279-291.

Winter, D. G. The need for power in college men: Action correlates and relationship to drinking. In D. C. McClelland et al., *The drinking man*. New York: The Free Press, 1972.

Winter, D. G. *The power motive*. New York: The Free Press, 1973.

Zuckerman, M. Dimensions of sensation seeking. *Journal of Consulting and Clinical Psychology*, 1971, 36, 45-52.

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## The Relationship Between Sexual Identification and the Use of Defense Mechanisms

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**Summary:** A distinction is made between two levels of sexual identification. The deeper level was measured by May's Deprivation-Enhancement fantasy pattern, while the surface level was assessed using the Masculinity-Femininity of the Strong Vocational Interest Blank. These measures, while clearly differentiating between college males and females, were found to be unrelated to each other. Moreover, the deeper level was found to be related to the use of "masculine" and "feminine" defense mechanisms.

In recent years, there has been an upsurge of interest in the roles that men and women play in society. Perhaps as part of this general social concern, the concept of sexual identification has come under increasing scrutiny (e.g., McClelland & Watt, 1968). It has been noted, for example, that the overt behaviors which an individual adopts may be clearly masculine, but his personal preferences or interests may be more feminine. Possibilities such as this make it important, then, to distinguish between a person's external, sex-typed behavior and his internal, subjective sense of self.

This point was made by Burton and Whiting (1961), in their differentiation between *primary* sexual identity, which is formed very early in life and is unconscious, and *secondary* identity, which is the result of later learning and reflects conscious attitudes. McClelland and Watt (1968) also have made this distinction, but suggested that there are three levels of sexual identity: *gender identity*, "an unconscious schema representing... the fundamental experience of one's self as male or female" (p. 237), *sex-role style*, which is "more or less unconscious" (p. 237), and a surface level that is indicated by the person's conscious *sex-stereotyped likes and dislikes*. A tri-partite division was also suggested by Lynn (1959), with *sexual identification* as the deepest, and partly unconscious level, *sex-role preference* as an inner, private level that is nevertheless conscious, and *sex-role adoption*, based on the conscious overt behavior of the person.

While investigators differ in their use of terminology and in the number of levels used to describe sexual identification, they agree that a distinction can be made between a basic underlying sense of one's maleness or femaleness, which is at least partly unconscious, and a surface set of conscious attitudes and preferences for sex-typed behaviors. In this paper, we will refer to the former aspect of sexual identification as *gender identity*, and to the latter as *sex-role adoption*.

As conceptualized in this paper, *gender identity* is a level of personality that develops relatively early in life. It is based in large part on the child's experience with his or her own body and on the fantasies that ensue from this experience. These fantasies have been demonstrated to be quite different in boys and girls and can be related to differences in sexual structure and function (Cramer, 1975; Cramer & Hogan, 1975; Erikson, 1951). The more surface level of *sex-role adoption*, on the other hand, develops relatively later in the child's life. It is the product of learning particular behaviors, attitudes, and interests, either through training and reinforcement or by way of imitation and modeling.

McClelland and Watt (1968) and others (e.g., May, 1971); Murstein & Wolf, 1970) have argued that the deeper level of *gender identity* is best assessed by tests that are relatively unstructured, somewhat ambiguous, and for which there are no obvious sex-stereotyped responses. In the present study, *gender identity* is assessed by using such a test: the Deprivation/Enhancement approach developed by May (1966, 1969) over the past ten



years. Using a standard set of TAT-like pictures, May identified differences in the fantasy patterns of men and women, which he termed the Deprivation-Enhancement (D/E) pattern. Men tend to create imaginative stories that begin with Enhancement (success, fame, health, happiness) and end with Deprivation (failure, misfortune, death, sadness), while women more often create stories that move in the opposite direction. A detailed scoring manual is used to determine the overall D/E score (May, 1966). This approach to measuring *gender identity* has been used successfully by a number of investigators in a variety of adult populations (Bramante, 1970; May, 1966, 1969, 1975; Winter, 1969; Johnson, Note 1). The findings have also been replicated with school-age children (Cramer & Bryson, 1973; Cramer & Hogan, 1975; May, 1971; Saunders, 1971). Interrater reliabilities have ranged from .77 to .89.

Sex-role adoption, on the other hand, is best measured by structured, unambiguous tests, such as attitude or interest questionnaires (cf. McClelland & Watt, 1968; Murstein & Wolf, 1970). In the present study, this level of sexual identity was measured by means of the Masculinity-Femininity scale (M-F) of the Strong Vocational Interest Blank (SVIB) (Strong, 1966). If, as is being suggested here, it is true that the two levels of sexual identity are relatively independent, then there should be minimal relationship between a subject's scores on the measure of gender identity and the measure of sex-role adoption. However, since the subjects come from a normal college population, it would also be expected that men as a group would score in a more masculine direction on both measures of sexual identity, while women would score in a more feminine direction.

Moreover, it might be expected that the measure used here of gender identity would be related to other measures that assess aspects of personality that are not based entirely on conscious choices or attitudes. Consistent with this expectation, May (1975) has shown that variations in D/E scores among female psychiatric patients are related to hysterical and obsessive character types, as deter-

mined from clinical diagnoses: feminine D/E scores are associated with "hysterical" diagnoses, while masculine D/E scores are associated with "obsessive" diagnoses.

In the present study, a look will be directed at the relationship between gender identity and the use of defense mechanisms, an aspect of personality that is determined, in part, by unconscious factors (Fenichel, 1945). Gleser (Gleser & Ihilevich, 1969) has devised a method to assess the relative strength of five defense clusters: Turning Against the Self (TAS), Turning Against the Object (TAO) (includes identification with the aggressor and displacement), Reversal (REV) (includes negation, denial, reaction formation, and repression), Projection (PRO), and Principalization (PRN) (includes intellectualization, isolation, and rationalization). The rationale behind the Defense Mechanisms Inventory (DMI) is based on the assumption that defense mechanisms, as an aspect of ego functioning, deal with conflict, and that the functioning of these mechanisms is at least in part unconscious (Gleser & Ihilevich, 1969).

In a series of empirical investigations, Gleser and her colleagues have shown that there are reliable sex differences in the use of four defense mechanisms. Females score significantly higher on TAS than do males, while males score significantly higher on TAO. Furthermore, males score higher on PRO, while, at least in some groups, females (or males with feminine characteristics) score higher on REV (Bogo, Winget, & Gleser, 1970; Gleser & Ihilevich, 1969; Gleser & Sachs, 1973; Gur & Gur, 1975; Ihilevich & Gleser, 1971; Weissman, Ritter, & Gordon, 1971). No significant sex differences have been found for the use of PRN. From these results, one might expect to find a converging relationship between gender identity and defense mechanisms, in that both are aspects of personality that are partly unconscious, and, empirically, both are related to biological sex.

From a theoretical point of view, also, one would expect to find a linkage between gender identity and use of defense mechanisms. According to psychoana-

lytic theory, feminine sexuality includes turning aggression inward (Deutsch, 1944; Freud, 1933). It might then be expected that women would make greater use of the defense of TAS, defined as "defenses that handle conflict through directing aggressive behavior toward S himself" (Gleser & Ihilevich, 1969, p. 52). Women are also described in psychoanalytic theory as being characteristically passive (Deutsch, 1944), due to the inhibition of both aggression and activity, and to their tendency to focus on inner life, rather than to pay attention to the external world (Erikson, 1964). From this line of reasoning, it might be expected that women would make more use of REV as a defense, since REV is based on defense mechanisms (negation, repression, denial, and reaction formation) that change internal feelings, even if this makes it necessary to falsify external perceptions.

Men, on the other hand, are considered to be naturally aggressive, due both to innate, hormonal factors (Maccoby & Jacklin, 1974) and to the fact that society accepts activity and aggressivity as appropriate masculine characteristics. One would thus expect to find TAO as a typical masculine reaction to conflict; a man deals actively and assertively with the object that is causing the conflict. TAO also includes identification-with-the-aggressor, and theoretically, this is part of the successful resolution of the Oedipal conflict and forms an important part of the young boy's sexual identification. Moreover, since men are more likely to be outwardly oriented (Erikson, 1964), it seems reasonable that, faced with a conflict, they would look for the source of that conflict in the external world, even if this means attributing inner motivations to the external world. Coupled with the tendency to aggressivity, we then would expect to find PRO — defined as the justification of "the expression of aggression toward an external object through first attributing to it, without unequivocal evidence, negative intent, or characteristics" (Gleser & Ihilevich, 1969, p. 52), occurring in conjunction with a masculine gender identity.

On the basis of the preceding considerations, four hypotheses were investigated.

*Hypothesis IA.* As has been found with other college populations in the past, it was predicted that both the measure of conscious *sex-role adoption* (the SVIB MF scale) and the measure of *gender identity* (May's D/E score) will show significant differences between males and females. Specifically, males will score higher on the MF scale (more masculine) and lower on the D/E measure (more masculine) than will females.

*Hypothesis IB.* It was further predicted that sex differences will be found on the DMI scales. Specifically, it was predicted that males will score higher on TAO and PRO, while females will score higher on TAS and REV. This prediction is based both on previous empirical findings as well as on theoretical considerations regarding masculine and feminine defenses. No specific prediction was made regarding the PRN scale.

*Hypothesis II* predicted that although sex appropriate differences between the two measures of sexual identity would be found, the two measures would themselves be unrelated. This prediction follows from our conceptualization of levels of sexual identification; different levels develop at different periods of the individual's life, have different causal roots, and are differentially accessible to consciousness. It is assumed that the SVIB MF scale is a measure of the surface level of sexual identity, while the D/E fantasy is a measure of a deeper level of sexual identity.

*Hypothesis III* predicted that there will be a relationship between scores on the DMI scales and on the D/E measure. Specifically, it was predicted that subjects who score high on feminine defenses (TAS, REV) will have feminine D/E scores, while subjects who score high on masculine defenses (TAO, PRO) will have masculine D/E scores. This hypothesis is based on the assumption that both the functioning of defense mechanisms and the source for D/E fantasy occur at a similar psychological level, that is not fully conscious.

*Hypothesis IV* predicted that there would be no relationship between scores on the DMI scales and on the MF scale, based on the assumption that these two

Table 1

Mean and Standard Deviation Scores for  
D/E, SVIB MF, and DMI Measures

	Defense Mechanisms Inventory						
	D/E	MF	TAO	PRO	TAS	REV	PRN
Females							
Mean	2.80	32.20	37.18	36.72	40.18	37.80	48.12
S.D.	3.92	6.90	5.80	5.26	7.57	6.33	7.75
Males							
Mean	-.04	40.30	43.92	42.16	34.44	35.78	43.70
S.D.	3.30	7.78	9.47	5.05	6.97	6.48	5.87
<i>t</i> value	3.94	5.51	4.29	5.27	3.94	1.58	3.22
<i>p</i> value	.001	.001	.001	.001	.001	.07 <sup>a</sup>	.01

<sup>a</sup> one-tailed test.

measures are tapping different levels of psychological functioning.

### Method

#### Subjects

The subjects were 50 male and 50 female undergraduates at Williams College. The average age was 20 years, with a range from 19-21 years. All subjects were in either the junior or senior year of college, were above average in intelligence, and came from middle- and upper-class backgrounds.

#### Procedure

Subjects were tested in small groups. The battery of tests was always presented in the following order: (a) May's D/E picture of two people swinging on trapezes; (b) the MF scale from the Strong Vocational Interest Blank (Strong, 1966); and (c) the Defense Mechanisms Inventory (Gleser & Ihilevich, 1969). Written standard instructions preceded each test. Subjects responded at their own pace.

The 100 D/E stories were typed with identifying data removed, and scored by

a rater trained in the use of May's (1966) D/E manual. Previous studies by May (1966, 1969, 1975) and by one of the present authors (Cramer & Bryson, 1973; Cramer & Hogan, 1975) have shown this to be a reliable scoring method. In the present investigation, 20 of the stories were selected at random and scored by a second rater. The Pearson product-moment correlation between the two sets of scores was .83, indicating satisfactory scoring reliability.

The SVIB MF scale was scored according to the MF key, with responses being given a numerical value of -1, 0, or +1. Positive scores indicate responses in the masculine direction. Raw scores were then transformed to standard scores, according to the norms provided (Male  $X = 50$ , S. D. = 10; Strong, 1966).

The DMI was scored according to the key provided by Gleser and Ihilevich (1969). This scoring system takes into account what the subject says would be his most likely reaction as well as his least likely reaction to a series of conflict situations. The score for each of the five defenses can range from 0 to 80.



Table 2

Product-Moment Correlation Coefficients Between  
D/E and DMI Scales, and Between MF and DMI Scales

	TAO	PRO	PRN	TAS	REV
D/E					
Females	-.19	-.03	.14	-.15	.21
Males	-.13	-.18	.23	.21	-.11
MF					
Females	.03	.07	-.02	-.08	.04
Males	-.04	-.11	.15	-.04	.05

### Results

Hypothesis 1A predicted that male and female subjects would be significantly different on the two measures of sexual identity, and Hypothesis 1B predicted specific significant differences on the DMI scales. Both of these hypotheses were confirmed.

Table 1 presents the mean scores for males and females on the D/E, on the MF scale, and on the five defense scales of the DMI. As can be seen from the table, on the D/E females scored significantly higher (more feminine) than did males ( $t = 3.94$ ,  $df = 98$ ,  $p < .001$ ). On the SVIB MF scales, males scored significantly higher (more masculine) than did females ( $t = 5.51$ ,  $df = 98$ ,  $p < .001$ ).

On the DMI scales, males scored significantly higher than females on TAO ( $t = 4.29$ ,  $df = 98$ ,  $p < .001$ ) and on PRO ( $t = 5.27$ ,  $df = 98$ ,  $p < .001$ ). On the other hand, females scored significantly higher than males on TAS ( $t = 3.94$ ,  $df = 98$ ,  $p < .001$ ) and on PRN ( $t = 3.22$ ,  $df = 98$ ,  $p < .01$ ). While females also scored higher on REV, as predicted, the difference was of borderline significance ( $t = 1.58$ ,  $df = 98$ ,  $p < .07$ , one-tailed test).

Hypothesis II stated that, although males and females would show sex-related differences on the D/E and MF measures, the two measures of sexual identity would themselves be unrelated. This hypothesis was also confirmed.

To determine the relationship between

D/E and MF scores, a Pearson product-moment correlation was calculated for the total sample (males + females). The resulting  $r = -.12$ , indicating no significant relationship between the two measures. Correlation coefficients were also calculated for each sex separately; for males, the  $r = -.05$ ; for females, the  $r = .19$ , indicating no significant relationship between the two measures for either sex. As a further check for absence of relationship, for each sex separately, the D/E scores for those subjects in the top quarter of the MF score distribution were compared with the D/E scores of those subjects in the bottom quarter of the MF distribution. The purpose of this comparison was to determine whether, although the total group failed to show a relationship, subjects with more extreme MF scores might also have more extreme D/E scores. The result of this second analysis indicated that there was no relationship between MF and D/E scores for either males ( $t = 1.19$ ,  $df = 24$ ,  $p > .10$ ) or females ( $t = 0.14$ ,  $df = 20$ ,  $p > .10$ ).

Hypothesis III stated that subjects who score high on feminine defenses will have feminine D/E scores, while those who score high on masculine defenses will have masculine D/E scores. Two approaches may be taken to test this hypothesis, depending on whether one conceptualizes the relationship between defenses and gender identity to be a linear one, or whether one believes that it is only in the extreme adoption or avoidance of

Table 3

Mean D/E Scores for High and Low Groups on  
Defense Mechanism Inventory Scales

	TAS	REV	PRN	TAO	PRO
Females					
High	1.14 ( <i>n</i> = 7)	5.12 ( <i>n</i> = 8)	3.50 ( <i>n</i> = 8)	2.00 ( <i>n</i> = 7)	3.56 ( <i>n</i> = 9)
Low	1.33 ( <i>n</i> = 9)	.78 ( <i>n</i> = 9)	1.00 ( <i>n</i> = 8)	5.00 ( <i>n</i> = 7)	2.82 ( <i>n</i> = 9)
<i>t</i> (one-tailed)	0.08	3.01*	1.22	2.12**	0.21
<i>df</i>	14	15	14	12	16
Males					
High	1.18 ( <i>n</i> = 11)	-.50 ( <i>n</i> = 10)	1.00 ( <i>n</i> = 12)	.25 ( <i>n</i> = 8)	-1.45 ( <i>n</i> = 11)
Low	-1.00 ( <i>n</i> = 9)	.40 ( <i>n</i> = 10)	-1.50 ( <i>n</i> = 10)	1.00 ( <i>n</i> = 9)	1.12 ( <i>n</i> = 8)
<i>t</i> (one-tailed)	1.57****	0.53	1.64***	0.39	1.62****
<i>df</i>	18	18	20	15	17

\*  $p < .005$ .

\*\*  $p < .02$ .

\*\*\*  $p < .06$ .

\*\*\*\*  $p < .07$ .

masculine and feminine defenses (defensive "types") that one will find a relationship with gender identity. If one hypothesizes a linear relationship between the two variables, then a correlation coefficient is the appropriate statistical measure. Table 2 shows the correlations between D/E and DM scores, for males and females. Although none of these *rs* are significant, the results are in the predicted direction for both masculine defenses, and for PRN, which in this population was a feminine defense (see Table 1). Those subjects who scored high on TAO and PRO (masculine defenses) showed an insignificant tendency to score low on D, E (masculine direction), while those subjects who scored high on PRN (feminine defense) showed an insignificant tendency to score high on D/E (feminine

direction). For the other two defenses, an interesting difference between the sexes in the nature of the relationship occurred. Males who scored high on TAS (feminine defense), showed an insignificant tendency to score more feminine on the D/E, while the reverse was true for females. Similarly, females who scored high on REV (feminine defense) showed an insignificant tendency to score more feminine on the D/E, while the reverse was true for males. Overall, however, the data do not show a significant linear relationship between defenses and gender identity.

On the other hand, when the alternative approach to the relationship between defensive "types" and gender identity was used as a basis for statistical tests, significant differences between the ex-

Table 4

Mean MF Scores for High and Low Groups  
on Defense Mechanism Inventory Scales

	TAS	REV	PRN	TAO	PRO
Females					
High	30.43	33.25	31.00	31.28	35.11
Low	32.44	31.11	31.12	33.57	33.78
<i>t</i>	0.60	0.68	0.99	0.53	0.43
<i>df</i>	14	15	14	12	16
Males					
High	40.00	39.60	40.25	35.38	39.27
Low	43.78	38.00	36.50	36.89	44.38
<i>t</i>	1.28	0.53	0.99	0.39	1.33
<i>df</i>	18	18	20	15	17

Note: The *n* for each group is the same as in Table 3.

treme defense scorers emerged, consistent with the direction of the correlational trends. In order to determine the relationship between DMI "types" and D/E scores, a comparison of high and low scorers on each DMI scale was made, for each sex separately. High scorers were those who scored one standard deviation above the mean for their group (male or female) on that scale; low scorers were those who scored one standard deviation below the mean. Subsequently, the mean D/E scores were determined for the high and low scorers on each defense, for each sex separately. These data are presented in Table 3.

A *t* test (one-tailed) was used to determine if the difference in mean D/E scores for high and low defense scorers was statistically significant. As can be seen from Table 3, females who scored high on the feminine defense of REV also scored significantly higher (more feminine) on the D/E measure than did females who scored low on REV ( $t = 3.01$ ,  $df = 15$ ,  $p < .005$ ). Similarly, males who scored high on the masculine defense of PRO showed a tendency to score lower (more mascu-

line) on the D/E test than did males who scored low on PRO ( $t = 1.62$ ,  $df = 17$ ,  $p < .07$ ).

For the other two sex-related defenses (TAS and TAO), an interesting cross-sex pattern emerged. While female subjects who were high and low scorers on TAS did not differ on D/E scores, male subjects who differed on TAS did differ on D/E, and in the way that was predicted. Male subjects who scored high on the feminine defense of TAS also showed a tendency to score high (more feminine) on D/E, both relative to the males who scored low on TAS ( $t = 1.57$ ,  $df = 18$ ,  $p < .07$ ) and to the overall male D/E mean (1.18 vs.  $> .04$ ). Similarly, while male subjects who were high and low scorers on TAO did not differ on D/E scores, female subjects who differed on TAO did differ on D/E, again in the way that was predicted. Those females who scored high on TAO had significantly less feminine D/E scores than did those females who scored low on TAO ( $t = 2.12$ ,  $df = 12$ ,  $p < .02$ ).

Finally, with PRN, the same cross-



sex pattern appeared. While females who were high and low on PRN did not differ significantly on D/E scores (although the difference is in the expected direction), male subjects who scored high on PRN also scored significantly more feminine on the D/E measure than did males who scored low on PRN ( $t = 1.64$ ,  $df = 20$ ,  $p < .06$ ).

Hypothesis IV stated that scores on the DMI would be unrelated to MF scores, since the latter scale measures surface level rather than deeper level psychological processes. As with the D/E comparisons described above, correlation coefficients between MF and DMI scores were calculated, and the MF scores for high and low defense scorers on each DMI scale were determined. As can be seen from Table 2, the correlations are all very low and are statistically insignificant. Also, as can be seen from Table 4, there were no significant differences in MF scores for any of the defense scale "types," for either males or females.

### Discussion

It may first be noted that the pattern of results of the individual tests (D/E and DMI) are highly similar to those found in previous studies with college students. For both of the sexual identity measures, college males score more masculine than college females. However, for both measures, the male subjects' scores are only moderately masculine ( $\bar{X}$  D, E =  $-.04$ ;  $\bar{X}$  MF =  $40.3$ ) and show some overlap with those of the college females. These findings are consistent with previous results from college males: May (1966) has found that the D, E scores of undergraduate males are only slightly negative ( $\bar{X} = -.22$ ), and Strong (1966) has noted that educated males often show a less masculine score on scales such as the MF. The explanation frequently offered for the latter finding is that, through the process of a liberal arts education, males become interested in ideas and activities such as music, art, drama and dance, that are considered in the general culture to be feminine. Then, on psychological scales that reflect this cultural stereotype, they score more feminine (less masculine) than do men who

have not been exposed to these areas of activity.

This kind of explanation — that it is the broadening experience of a liberal arts education that leads to a broadening of interests, to include culturally feminine interests, which in turn leads to the less extreme sex-role adoption scores of college males — however, does not seem fully adequate to explain the scores on the D/E measure of gender identity. These scores are unaffected by cultural likes or dislikes, and, rather, reflect a basic sense about the general course of human experience. Furthermore, it has been demonstrated that this underlying, partly unconscious feeling is present in children by the time they are 10 years old (Cramer & Bryson, 1973; Cramer & Hogan, 1975). Thus it seems unlikely that learning experiences during college could account for the scores of moderate masculinity obtained by college males. Perhaps, by suggesting that college males are made less masculine by college experiences, we have put the cart before the horse, and have overlooked the possibility that it is the young men who *already* have incorporated both masculine and feminine components into their sexual identification who seek out an education at a liberal arts college. This hypothesis is consistent with Maccoby and Jacklin's (1974) recent conclusion that intellectual performance is positively associated with cross-sex typing.

The results on the DMI are also highly similar to those found in previous studies. As cited earlier, college males make greater use of TAO and PRO as defenses than do college females, while college females make greater use of TAS. Although less reliable as a previous finding, and of borderline significance in the present study, REV was again shown to be more characteristic of females. Unexpected was the additional finding that PRN was used more often by females. Whether or not the use of this "intellectual" defense by females is peculiar to this population is not known; however, a tendency in this direction ( $p < .10$ ) also has been reported by Weissman, Ritter, and Gordon (1971). Taken together, the patterns of defense scores for males and females are consis-

tent with a psychodynamic theory of sexual development. Males are more active, more aggressive, and more inclined to deal with problems in an overt instrumental fashion. They look to solve problems that are external to themselves, and thus may mistakenly place the cause of a conflict outside of themselves. The predominant use by males of TAO and PRO is consistent with this characterization of masculine sexual identity. Females, on the other hand, inhibit activity and aggression and tend to deal with conflict by directing it inward. This is especially true in the case of aggression, which rather than being discharged onto the environment is turned inward, but the focusing inward and the lesser interest in veridical perception of the external world may be a more general female characteristic. The finding in the present study that females used TAS and REV more frequently than did males is consistent with this characterization of feminine sexual identity.

The major importance of the present study, however, centers on the issue of levels of sexual identity. As was predicted, there was no relationship between the surface level of sex-role adoption and the deeper level of gender identity, for either males or females. Even more striking, with regard to the levels of sexual identification hypothesis, is the finding that underlying defense mechanisms, when considered as constituting personality "types," relate to gender identity in a meaningful way, but show no relationship to the surface level measure of sex-role adoption. As noted above, part of the definition of masculine sexual identity includes the tendency to externalize conflict. Consistent with this definition, males who were especially likely to use PRO as a defense showed a tendency towards having a stronger masculine gender identity than did males who were unlikely to use PRO. On the other hand, the tendency to avoid external conflict, even if this means distorting the nature of reality, is seen as an aspect of feminine sexual identity. In fact, those females who were especially likely to handle conflict in this way (high scorers on REV) also had a significantly stronger feminine gender identity.

The other two defenses that were pre-

dicted to be related to gender identity (TAO and TAS) showed an interesting pattern. While neither was related to gender identity within its sex-appropriate group, both were related to gender identity in the cross-sex group. That is, males who were high and low scorers on TAO did not differ in gender identity, but females did. Females who scored high on TAO, a masculine defense, had less feminine gender identity scores than did females who scored low on TAO. Similarly, females who were high and low scorers on TAS did not differ in gender identity, but males did. Males who scored high on TAS, a feminine defense, showed a tendency toward more feminine gender identity scores than did males who scored low on TAS. This pattern also emerged for PRN, a female defense in this sample. While there was no difference in gender identity for female high and low scorers on PRN, males who scored high on PRN showed a tendency toward more feminine gender identity scores than did males who scored low on PRN.

Just why PRO and REV should differentiate gender identity within their sex-appropriate groups, while TAO and TAS differentiate in cross-sex groups is not clear. Conceptually, TAO and TAS are not quite of the same order as REV, PRO, and PRN, and they refer more specifically to ways of handling aggression than to the control of impulses in general. It may also be that men are expected to react to conflict with overt assertion, and if this reaction does not occur more or less automatically, as a defense mechanism, then the man will learn to react this way. Similarly, there is a social expectation that a woman, faced with conflict, will pull back, and if this defense does not occur automatically, the woman may learn to react in an inhibited, self-effacing manner. Then, within sex, scores on either TAO or TAS will be determined by deep-level personality factors in some subjects and by learned social roles in others. If this were true, we would not expect to find scores on TAO and TAS related to gender identity, for the same reasons that we do not expect to find MF scores related to gender identity. On the other hand, there would be few social ex-

expectations that would prompt a male to learn to turn aggression inward, or a female to be overtly aggressive toward others, in order to win social approval. Thus, the occurrence of TAS in a male, or TAO in a female, would be due to deep-level personality factors alone, and hence we would expect these scores to be related to gender identity, as found.

Although the above is quite speculative, it is nevertheless clear that the use of defenses is related to gender identity. The two female groups with the most feminine gender identity scores were those who were high scorers on the feminine defense of REV ( $D/E \bar{X} = 5.12$ ) and those who were low scorers on the male defense of TAO ( $D/E \bar{X} = 5.00$ ). Similarly, the two male groups with the most masculine gender identity scores were those who were high scorers on the masculine defense of PRO ( $D/E \bar{X} = -1.45$ ) and those who were low scorers on the female defense of PRN ( $D/E \bar{X} = -1.50$ ), followed closely by those who were low scorers on the female defense of TAS ( $D/E \bar{X} = -1.00$ ).

In conclusion, we may state that this study provides evidence for the existence of two independent levels of sexual identification, termed sex-role adoption and gender identity. Their independence was determined both by the lack of correlation between scores measuring the two levels, and by the finding that a measure of defense mechanisms, theoretically related to gender identity but not to sex-role adoption, did in fact relate to the former but not the latter.

#### References

- Bogo, N., Winget, C., & Gleser, G. C. Ego defenses and perceptual style. *Perceptual and Motor Skills*, 1970, 30, 599-604.
- Bramante, M. R. *Sex differences in fantasy patterns: a replication and elaboration*. Unpublished doctoral dissertation, City University of New York, 1970.
- Burton, R. V., & Whiting, J. W. The absent father and cross-sex identity. *Merrill-Palmer Quarterly of Behavior and Development*, 1961, 7, 2.
- Cramer, P. The development of play and fantasy in boys and girls. Empirical studies. In D. P. Spence (Ed.), *Psychoanalysis and contemporary science* (Vol. IV). New York: International Universities Press, 1975.
- Cramer, P., & Bryson, J. The development of related fantasy patterns. *Developmental Psychology*, 1973, 8, 131-134.
- Cramer, P., & Hogan, K. A. Sex differences in global and play fantasy. *Developmental Psychology*, 1975, 11, 145-154.
- Deutsch, H. *The psychology of women*. New York: Grune and Stratton, 1944.
- Erikson, E. H. Sex differences in the play configurations of preadolescents. *Journal of Orthopsychiatry*, 1951, 21, 667-692.
- Erickson, E. H. Inner and outer space: Reflections on Womanhood. In R. J. Lifton, *The woman in America*. Boston: Beacon Press, 1964, 1-26.
- Fenichel, O. *The psychoanalytic theory of neurosis*. New York: Norton, 1945.
- Freud, S. *The psychology of women, new introductory lectures*. New York: Norton, 1933, 155-185.
- Gleser, G. C., & Ihilevich, D. An objective instrument for measuring defense mechanisms. *Journal of Consulting and Clinical Psychology*, 1968, 33, 51-60.
- Gleser, G. C., & Sacks, M. Ego defenses and reaction to stress. A validation study of the Defense Mechanisms Inventory. *Journal of Consulting and Clinical Psychology*, 1973, 40, 181-187.
- Gur, R. E., & Gur, R. C. Defense mechanisms, psychosomatic symptomatology and conjugate lateral eye movements. *Journal of Consulting and Clinical Psychology*, 1975, 43, 416-420.
- Ihilevich, D., & Gleser, G. C. Relationship of defense mechanisms to field dependence-independence. *Journal of Abnormal Psychology*, 1971, 77, 296-302.
- Lynn, D. B. Sex differences in masculine and feminine identification. *Psychological Review*, 1959, 66, 126-135.
- Maccoby, E. E., & Jacklin, C. N. *The psychology of sex differences*. Stanford: Stanford University Press, 1974.
- May, R. Sex differences in fantasy patterns. *Journal of Projective Techniques & Personality Assessment*, 1966, 30, 576-586.
- May, R. Deprivation-enhancement patterns in men and women. *Journal of Projective Techniques & Personality Assessment*, 1969, 33, 464-469.
- May, R. A method for studying the development of gender identity. *Development Psychology*, 1971, 5, 484-487.
- May, R. Further studies on deprivation enhancement patterns. *Journal of Personality Assessment*, 1975, 39, 116-122.
- McClelland, D. C., & Watt, N. F. Sex-role alienation in schizophrenia. *Journal of Abnormal Psychology*, 1968, 73, 226-239.
- Murstein, B. I., & Wolf, S. R. Empirical test of the "levels" hypothesis with five projective techniques. *Journal of Abnormal Psychology*, 1970, 75, 38-44.
- Saunders, J. *A theory of sex-role development in the female child*. Unpublished master's thesis, California State College at Long Beach, 1971.



- Strong, E. K. *Strong Vocational Interest Blanks: Manual*. Stanford, California: Stanford University Press, 1966.
- Weissman, H. N., Ritter, K., & Gordon, R. M. Reliability study of the Defense Mechanism Inventory. *Psychological Reports*, 1971, 29, 1237-1238.
- Winter, S. K. Characteristics of fantasy while nursing. *Journal of Personality*, 1969, 37, 58-72.
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## The Interpretative Validity of the FAM: Long-Term Psychotherapists' Ratings of Psychiatric Inpatients

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**Summary:** Newmark, Conger, and Faschingbauer (1976) found a significant difference between mean ratings of MMPI and FAM (Faschingbauer's Abbreviated MMPI) based interpretations. Since this may have been specific to lack of rater experience, the present study attempted a replication using long-term psychotherapists as raters. The only significant difference was for 20 male psychiatric inpatients. Females ( $n = 16$ ) and the pooled sample showed no significant differences between ratings regardless of the source test. When the present results are compared to those of Newmark, Conger and Faschingbauer (1976) and earlier work by Faschingbauer (1973), it appears that the FAM yields interpretations as accurate as one would expect given its psychometric dissimilarity from the MMPI.

Comparisons of scale means, standard deviations, and correlations have repeatedly been shown to be poor predictors of a short MMPI's ability to accurately diagnose psychiatric inpatients. Consequently, Newmark, Conger, and Faschingbauer (1976) had residents rate MMPI and FAM (Faschingbauer's Abbreviated MMPI) interpretations for 86 psychiatric inpatients without knowledge of the source test. Although no significant differences were found for either sex, the MMPI-based reports were rated as significantly more accurate ( $t = 2.66, p < .05$ ) over the entire sample. These results may have been specific either to the inexperience of the raters, who were in training and generally had only brief contact with the patients, or to Dr. Newmark's interpretations.

### Method

Randomly selected MMPI answer sheets for 20 male and 16 female psychiatric inpatients at Highland Hospital (average hospitalization = 3 months) were scored for the FAM items. Profiles based on both the short and full scale scores were interpreted by the senior author.

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Staff psychiatrists ( $n = 7$ ), well acquainted with their patients, then rated the paired interpretations of each patient for accuracy using the same 5-point scale as did Newmark et al., (1976) (i.e., 1 = totally inaccurate — 5 = totally accurate). Whenever both interpretations for a patient were equally rated, the psychiatrist was instructed to mark one of them as qualitatively superior. Both the interpretations and ratings were performed without knowledge of whether the source test was the MMPI or the FAM.

### Results and Conclusion

Students'  $t$  for independent means was significantly high only for the males ( $M = 3.60$  for the MMPI and 3.00 for the FAM,  $t = 4.00; p < .001$ ). For females the FAM-based interpretations were actually rated nonsignificantly higher than those for the MMPI ( $M = 3.06$  for the MMPI and 3.50 for the FAM). The pooled mean rating of 3.36 for the MMPI and 3.22 for the FAM were also nonsignificantly different.

Compared with the results of Newmark et al. (1976), the present interpretations were consistently rated more than one category lower ( $M = 3.36$  versus 4.50 for MMPI and 3.22 versus 4.33 for FAM). This may reflect differences in interpretative skill, the raters' knowledge of the

patients, or both. Similarly, more pairs of interpretations were rated as equal by the residents in the Newmark et al., study (55% versus the present study's 40%). The percentage of ties where the MMPI interpretation was selected as somehow superior, however, was similar across the studies (68% versus 64% presently). Finally, the mean differences between the FAM and MMPI ratings were similar in both studies (.18 for Newmark et al., 1976 versus .14 for the present study).

One would expect that interpretations based on comparison of several scales would be affected by any changes in the scale intercorrelation matrix. In his original study Faschingbauer (1973) found median differences ranging from .13 to .16 between MMPI and FAM intercorrelation matrices. The present results suggest that the FAM is functioning as well as it might be expected to in

clinical situations, considering the extent of its psychometric dissimilarity to the MMPI.

#### References

- Faschingbauer, T. R. A short written form of the group MMPI (Doctoral dissertation, University of North Carolina, 1973). *Dissertation Abstracts International*, 1973, 34, (University Microfilms No. 73 - 16579.)
- Newmark, C. S., Conger, A. J., & Faschingbauer, T. R., The interpretive validity and effective test length functioning of an abbreviated MMPI relative to the standard MMPI. *Journal of Clinical Psychology*, 1976, 32, 27-32.

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## Item Subtlety and Faking on the MMPI: A Paradoxical Relationship

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**Summary.** The X-zero distinction has been used as the operational definition of MMPI item subtlety in previous research. A consistent finding has been that the X items, which are obvious in terms of pathological content, can be faked whereas the more subtle zero items cannot be faked. The present study examined the relationship between instructional sets and endorsement patterns, using a more refined, comprehensive measure of item subtlety. Sixty (30 male, 30 female) subjects completed two MMPI protocols, one under a standard instructional set and the other under either a fake-good or fake-bad response set. Order of administration and sex were counterbalanced. In general, the findings for the subtle-obvious dimension paralleled the previous findings with the X-zero distinction. Endorsement of obvious items was a direct function of instructional set, whereas endorsement of subtle items was inversely related to instructional set. Because subtle items did not appear to measure the constructs for which they had been originally intended, other uses for subtle items were discussed.

In the original derivation of the MMPI, many items were selected for inclusion on clinical scales even though they had no obvious connection with the pathological conditions being measured. These subtle items were included as a function of the strictly empirical item selection procedures utilized by the test constructors (Meehl, 1945). The most well-defined of these subtle items were called "zero items."

Zero items were those items which, although endorsed by the majority of normals, were included on the MMPI because an even greater percentage of the criterion groups endorsed the items. Items which were only rarely endorsed by normals and were obviously pathological in content were labeled "X items." Wales and Seeman (1968, 1969, 1972) and other researchers (Anthony, 1971; Vesprani & Seeman, 1974) have demonstrated that subjects asked to fake MMPI protocols are able to successfully manipulate X items. However, zero items are endorsed in the direction opposite to the response set induced in the subject; i.e., when asked to fake good, subjects endorse more zero items and hence, paradoxically, cause more of these items to be scored in the pathological direction. The demonstration that zero items do not share the same properties as X items has led some investigators to conclude that

subtle items may not add to the discriminating power of the test scales (Duff, 1965; Jackson, 1971).

Studying the effects of item subtlety has been hampered, however, because the operational definition of subtlety generally has been limited to the X-zero distinction. Previous research by the present investigators has demonstrated that the X-zero distinction is an inadequate definition of item subtlety because it fails to include all items and is a relatively gross binary distinction which does not adequately cover the full range of the subtlety dimension. To correct these deficiencies, subtlety ratings were obtained for all MMPI items using standard scaling procedures (Christian, Burkhardt, & Gynther, Note 1). A comparison of these ratings with the X-Zero definition of item subtlety showed that although zero items were rated as generally subtle, the average of the X items fell only slightly above the midpoint of the subtle-obvious continuum.

The present study was conducted to determine if the paradoxical relationship found in previous research with X-zero items under faking response sets would be replicated with a more refined measure of item subtlety which included the full range of item subtlety values. To fully explore the relationship between item subtlety and faking, the design incorpo-

Table 1

Mean Number of Items Endorsed Within Five Subtlety Categories  
Under Standard and Fake-good Instructional Sets

	Very Subtle	Somewhat Subtle	Neutral	Somewhat Obvious	Very Obvious
Standard	42.76 ] <sup>a</sup> **	29.45 ] <sup>*</sup>	31.29 ] <sup>**</sup>	21.83 ] <sup>**</sup>	3.83 ] <sup>**</sup>
Fake-good	50.69 ]	33.00 ]	15.69 ]	6.18 ]	0.41 ]

\*  $p < .001$ .

\*\*  $p < .0001$ .

<sup>a</sup> Brackets represent significance test for difference between means.

rated both fake-good and fake-bad response sets as well as a standard test taking condition.

### Method

#### Subjects

Sixty (30 male, 30 female) students enrolled in an introductory psychology course were recruited to serve as subjects. Before the study began, the students were informed of the general nature of the study and were assured of confidentiality.

#### Procedure

Each subject completed two MMPI protocols administered on consecutive days. One protocol was completed under the standard instructional set and the other was completed under either a fake-good or fake-bad instructional set with order of administration counter-balanced. Half of each sex were instructed to fake-good and the other half were instructed to fake-bad.

The fake-good instructional set required the subject to respond to the test "in such a way as to create a good impression; for example, an impression you would like to make in applying for a very desirable job." The fake-bad instructional set asked the subject to respond to the test "in such a way as to create a bad impression; for example, an impression you would like to make in order to avoid being drafted into a very undesirable job."

The MMPI protocols were scored for subtlety based on the item subtlety values established for all MMPI items by Christian et al. (Note 1). These values were determined by having subjects rate, using a 5-point scale ranging from very obvious through very subtle, all 566 MMPI items, answered true, and the 209 MMPI items keyed false on the clinical scales, answered false. Median ratings of each item were computed. Based on these values, each item was also assigned to one of five categories: very obvious, obvious, neither subtle nor obvious, subtle, and very subtle.

The number of items endorsed in the keyed direction within each of the five subtlety categories was recorded and compared across instructional sets by means of a repeated measures analysis of variance.

### Results and Discussion

Table 1 contains the mean score for each subtlety category under standard and fake-good instructional sets. It is apparent that when subjects attempted to fake, the neutral, somewhat obvious, and obvious categories were successfully manipulated, i.e., the scores declined significantly. However, the scores on the very subtle and somewhat subtle categories increased significantly, illustrating the "paradox" demonstrated in previous research.

Table 2

Mean Number of Items Endorsed Within Five Subtlety Categories  
Under Standard and Fake-bad Instructional Sets

	Very Subtle	Somewhat Subtle	Neutral	Somewhat Obvious	Very Obvious
Standard	43.80 ] <sup>a</sup> **	29.73	30.37 ] **	20.67 ] **	2.90 ] **
Fake-bad	21.63 ]	29.10	75.23 ]	86.23 ]	32.63 ]

\*\*  $p < .0001$ .

<sup>a</sup> Brackets represent significance test for difference between means.

The mean score for each subtlety category under standard and fake-bad instructional set is reported in Table 2. When subjects were instructed to fake-bad, again the neutral, somewhat obvious, and very obvious scores were successfully manipulated. In this case the number of items endorsed increased significantly. However, the number of items in the very subtle and somewhat subtle categories decreased when subjects tried to fake-bad although this was significant only for the very subtle items. Thus, the paradoxical effect of item subtlety also was demonstrated in the fake-bad condition.

Figure 1 presents the percentage of items endorsed in the keyed direction in each subtlety category under each of the instructional sets. Inspection of the figure indicates that under the standard instructional set, as the psychopathological meaning of the items became increasingly obvious, the percentage of items endorsed decreased in a linear manner. Under fake-good instructions, even more subtle and fewer obvious items were endorsed. However, this endorsement pattern was reversed under instructions to fake-bad with fewer subtle and more obvious items being endorsed. It should be noted, also, that standard MMPI protocols closely resembled fake-good protocols. This observation is compatible with the assumption that people generally tend to present themselves in a favorable light. As the psychopathological meaning of an item becomes more obvious, the item is

viewed as less desirable to endorse under both fake-good and standard response sets.

It is clear from these data that subjects could make reliable judgments about the psychopathological content of MMPI items. Further, subjects were able to use these observations to orient their responses under various instructional sets. For obvious items this information allowed subjects to fake their responses quite successfully. However, for subtle items the paradoxical effect was that subjects endorsed these items in the direction opposite to that intended. This finding deserves further inquiry. Perhaps the most parsimonious explanation derives from the substantial negative correlation ( $r = -.82$ ) found between subtlety ratings and desirability ratings in a previous study (Christian et al., Note 1). That is, one might hypothesize that subtle items were endorsed more frequently under fake-good and less frequently under fake-bad response sets because they generally were seen as representing socially desirable attitudes or actions.

Perhaps because they are less "content saturated," subtle items appear not to share the same itemmetric properties as obvious items. First, they are inversely related to test taking sets whereas obvious items are not. Also, Duff (1965) found that subtle items discriminated normals from clinical groups less accurately than obvious items. Further, Koss and Butcher (1973) have demonstrated that items



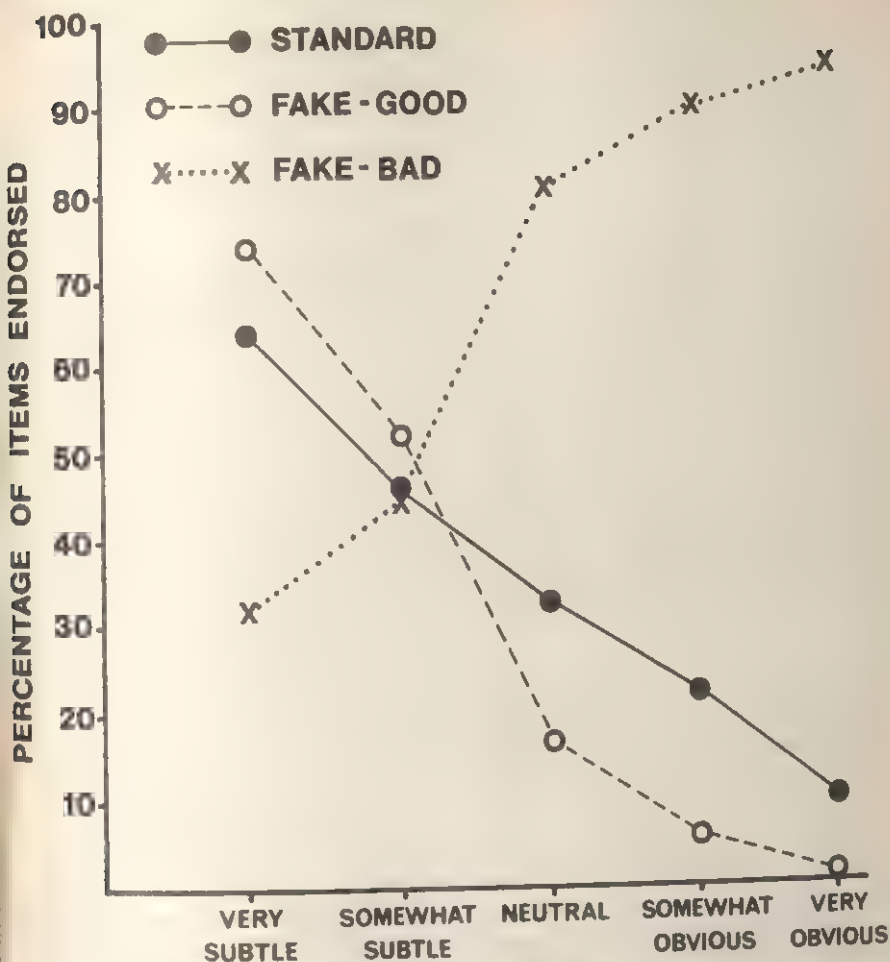


Figure 1. Percentage of items endorsed within each subtlety category under fake-bad, fake-good, and standard instructional sets.

more clearly related to the factor being assessed are better predictive measures.

Endorsement of obvious items appears to indicate the presence of psychopathology. Endorsement of subtle items, on the other hand, is probably not indicative of psychopathology, even though these items were initially conceptualized as subtle measures of this dimension. The question must then be raised: Of what use are the subtle items? Weiner (1948), early in the development of the MMPI, suggested that subtle items might be useful in measuring personality function-

ing in sophisticated or defensive subjects. In a previous study, the present researchers found that psychologically minded subjects endorsed more subtle and fewer obvious items under standard and fake-good test instructions than less psychologically minded subjects (Burkhart, Gynther, & Christian, 1977). This finding is consistent with the suggestion by Wales and Seeman (1969) that endorsement of zero items is related to social astuteness. If this is indeed true, then endorsement of subtle items would yield a useful, unobtrusive measure of this dimension.

For example, it is often asserted that a high score on the *F* scale is associated with an inability to discriminate social norms. The *F* scale is composed of very obviously pathological items. Perhaps a scale of subtle items could be derived which would reflect the opposite attribute, i.e., social acuity.

Several studies, using less refined measures of item subtlety have shown that the patterns of endorsement of subtle items can be used to identify particular test taking sets (Anthony, 1971; Wales & Seeman, 1968, 1972). It should be possible to develop even more precise methods of identifying faked protocols based on the subtlety values reported by Christian et al. (Note 1). More research is needed, however, to clarify the role of the subtle-obvious dimension in such areas as the detection of faking, measurement of social astuteness, and identification of other personality characteristics associated with the subtlety construct.

#### Reference Note

1. Christian, W. L., Burkhart, B. R., & Gynther, M. D. Subtlety ratings of MMPI items: New interest in an old concept. Manuscript submitted for publication, 1977.

#### References

- Anthony, N. Comparison of clients' standard, exaggerated, and matching MMPI profiles. *Journal of Consulting and Clinical Psychology*, 1971, 36, 100-103.
- Burkhart, B. R., Gynther, M. D., & Christian, W. L. Psychological mindedness, intelligence, and item subtlety endorsement patterns on the MMPI. *Journal of Clinical Psychology*, in press.
- Duff, F. L. Item subtlety in personality inventory scales. *Journal of Consulting Psychology*, 1965, 29, 565-570.
- Jackson, D. N. The dynamics of structure in personality tests: 1971. *Psychological Review*, 1971, 78, 229-248.
- Koss, M. P., & Butcher, J. N. A comparison of psychiatric patients' self-report with other sources of clinical information. *Journal of Research in Personality*, 1973, 7, 225-231.
- Meehl, P. E. The dynamics of "structure" in personality tests. *Journal of Clinical Psychology*, 1945, 1, 296-303.
- Vesprani, G., & Seeman, W. MMPI X and Y items in a psychiatric out-patient group. *Journal of Personality Assessment*, 1974, 40, 61-64.
- Wales, B., & Seeman, W. A new method of detecting the fake good response set on the MMPI. *Journal of Clinical Psychology*, 1968, 24, 211-216.
- Wales, B., & Seeman, W. What do MMPI Y items really measure: An experimental investigation. *Journal of Clinical Psychology*, 1969, 25, 420-424.
- Wales, B., & Seeman, W. Instructional sets and MMPI items. *Journal of Personality Assessment*, 1972, 36, 282-286.
- Wiener, D. N. Subtle and obvious keys for the Minnesota Multiphasic Personality Inventory. *Journal of Consulting Psychology*, 1948, 12, 164-170.
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## The Laugh of Satan: A Study of a Familial Murderer

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*Summary:* A teenage murderer who killed his mother, his tiny half-brother, and his step-father was studied through the imagery he associated to three different editions of inkblots. These sets included the Rorschach, Behn-Rorschach, and Ka-Ro plates. The data were used to theorize about clues, dynamics, and diagnosis in this extreme case of adolescent violence. Family background and developmental history are included. The author takes the position that a conventional analysis of these data alone is not sufficient to fully understand familial murderers. Several of C. G. Jung's concepts, notably his view about the power of shadow-projections to influence conscious percepts and his philosophy about evil as a collective phenomenon, were used to speculate about ways we might extend our understanding of this subject's extreme form of violence. Defining the archetype as an energy-complex, the discussion theorized about possible ways different forms of paranoid ideation may arise.

This study will present samples of subjective imagery, or the contents of the inner world, around which the life, fantasies, behavior, and finally the importunate, destructive acts of a teenager were structured. The paper will portray the mood of murder, a spectrum of the roots of extreme violence, through the medium of inkblot plates. We will generalize about dynamic patterns and the clinical picture, as we limn for a still-life morbidly etched by a youth whose consciousness was possessed with forces that led him to obliterate his mother, his step-father, and his four-year-old half-brother.

Unquestionably, the subject focused his anger toward his mother. When their relationship was good, he described it as having been like a sister-brother interchange. We may assume incestual elements, but must also ask what makes the difference in those rare individuals who have Oedipal strivings and who also murder? Can we isolate any clues about this difference in the materials of a subject who paints for us his own inner picture of violence and evil? His materials may throw some light on this state which may become more common in our time as the prevailing moral viewpoint loses strength. Three sets of inkplates were presented to the subject over a period of one month. We wondered if different forms of inkplates would yield significant differences or similarities. The usual Rorschach plates were presented at the first session. In the second session, the Behn-Rorschach

plates, devised by Hans Behn-Eschenburg (1921) under Hermann Rorschach's direction were used. The third set of blots administered were the Ka-Ro plates developed by Yasufumi Kataguchi (1970) in Japan. The subject was awaiting trial in a psychiatric ward of a state prison at the time of the sessions. The three sets of imagery are presented in comparative columns following the subject's history. Inquiries are not placed in separate columns in the interest of continuity and juxtaposition; all questions are specifically identified by a prefixed question mark.

### *Subject*

At the time of the murders the subject was an 18-year-old single, white male. Inkblot examinations were conducted five months later, just before trial. The subject's parents divorced when he was one year old. His father remarried and he had little further contact with him. After the divorce, the subject and his mother lived with his maternal grandmother. His mother was a college graduate and the family was upper middle class. His grandmother controlled considerable wealth; she spoiled him, giving him everything he wanted. He had no specific religious upbringing, although his grandmother was Unitarian. When he was 8 years old, subject's mother married a man active in the civil rights movement of the sixties. The subject lived with them. There was no child by this marriage. The



subject disliked his step-father and kept largely to himself. During the second and third grades he began to shoplift toys. The subject recalled a nocturnal event associated with this step-father. His step-father was subject to sleep walking, and one night he came into his step-son's room, mistaking it for the bathroom, and then got in bed with his step-son. His mother divorced this man when the subject was 12 years old. For a time after this he slept in the same bed with his mother. About a year later his mother married his second step-father. He lived with them until he started high school. After he began skipping school and ran away with a male friend, going down a river on a raft, he was sent to live with his grandmother in another city. He made good grades in a private high school, but was considered shy. He reported fainting at the sight of blood, fainting in a class when lung cancer was discussed, and fainting in school while viewing a health film. He started cutting classes again, dropped out of school for a time, and started drinking with college kids and attending their parties. After several months he returned to school and again made good grades, though he said he was regarded by his peers as a "wild playboy." His mother bore a son by her third husband when the subject was 15, an event he interpreted as his own rejection by his mother. The subject described his mother's third marriage as "on the rocks" prior to the murders.

During high school he became fascinated with Nazi philosophy and purchased several Nazi weapons. He had a number of guns and was an excellent shot, frequently engaging in solitary target practice at a remote spot. He had fantasies about Roman generals and maneuvered opposing armies in imaginary games of war. He began to design his own clothes and boots, having them tailor-made. One month before the murders he designed a suit fashioned after Napoleon's uniform, choosing a color he called "Wellington red." Around the same time he and a friend broke a train switch lock with the idea of derailing the train. Both were caught and placed on probation.

During the year prior to the murders,

the subject developed a platonic relationship with a teenage girl who hated her father. At a later time the girl was admitted to a psychiatric hospital for study when it was learned that she had been putting arsenic in her father's beverages. She and the subject planned and discussed this procedure together.

The subject often tyrannized his grandmother while living with her. He experienced intense outbursts of anger if anything disrupted his sense of perfectionism. He said he had a series of new cars during that year; when his grandmother's cigarette burned a mark in the rug of one of these cars, he went into a rage, broke the windshield, kicked in the door, and broke off the aerial. On another occasion he smashed some of her antique furniture with an axe. In another instance he demolished his bicycle.

About a month before the murders, while at his mother's home, he felt an urge to kill all three, having a gun on his person at the time. A few days later he had plastic surgery on his ears. His reason was that they protruded too much. He was pleased with the result, but he was angry with his mother because he said she had agreed to pay for the surgery and then refused to do so. It is not clear whether his motive for the surgery was cosmetic or designed to make him less identifiable should he become the object of police search. In his biography of James Earl Ray, George McMillan (1976) reported that Ray had his nose's shape changed shortly before Martin Luther King's assassination because it was too long and made an easy mark for police identification.

On the night before Thanksgiving, the subject drove from his grandmother's house to his mother's home in another city. His step-father, his half-brother, and his mother were all at home. They were to have Thanksgiving dinner together at his grandmother's home the next day. He shot and killed his step-father as he sat watching television with his son on his lap. He killed his half-brother, shooting him twice. He shot his step-father once again after he was sure he was dead. Standing in the hall, he shot and killed his mother as she came out of a

bathroom. He then shot her five times in the head. After these acts he reported hearing "the laugh of Satan" ringing in his ears. He put the gun to his own temple, but then told himself to put the gun down. He had not murdered because hallucinatory voices had ordered him; the laugh was his only aural experience. He returned to his grandmother's house. The next day he casually wondered with his grandmother why the family had not arrived for Thanksgiving dinner. Late that afternoon the police found the family murdered.

The subject told this writer that after the murders he had "the most peaceful, restful night of my life." Asked about his feelings at the time of destroying his little brother, he said he had experienced no more feeling than if he had shot at a file cabinet. He spontaneously offered the remark that he had no idea what love was. He was defiant and hostile at the funeral and he wore his "Wellington red" Napoleon suit to the funeral as a "slap in their face." He wanted the bodies cremated. He stated to this writer that he would do it again. He was apprehended by the police right after the funeral. He had thrown the murder weapon in a reservoir; it was later retrieved. He stated he wanted the police to shoot him; he planned to "draw on them," simply pulling out his wallet instead of a gun, but he took his coat off and couldn't draw."

The subject's intellectual assets were superior. He liked an audience and freely talked about himself. Outwardly, he did not appear psychotic, his manners had polish, and he was perfectly capable of answering questions in a manner that would put him in a good light. During the trial the subject told this writer that "conviction would be my great achievement." He remarked, "this court is a farce, most of these are here to entertain society," adding, "In prison, I will recruit others; it doesn't matter how many lives it will take, I'll go down fighting and take as many of society with me as I can." This writer is convinced that these were not idle words. There was never any serious question about the subject's guilt. The defense aimed to disprove his sanity, the prosecution to prove it. He was judged

guilty and remanded to a psychiatric prison hospital.

### *Discussion*

We should note that the subject had been given an initial Rorschach at the prison psychiatric unit prior to the administration of the additional sets included in this paper. The orderly array of inkplate images as printed, little conveys the erratic manner in which his images poured out. They emerged in a tumbling, importunate fashion, and he was intensely involved with the supernatural-satanic imagery he produced. There was nothing of the flat, drained quality one might expect following acts of violence and four exposures to inkblot plates (see Appendix).

So far as this writer knows, no example of this form of violence has been studied before through comparative editions of inkblots. There is no literature to draw on and we must of necessity be free to speculate about our data and to raise some questions which might be useful for others involved in research about violence. We consider this approach to be within the spirit of scientific inquiry, perhaps even the essence of it. To be sure, others may interpret the data differently. However, so little is known about motivations in this variety of murderer, any data-based ideas or formulations may stimulate more research about the nature of murder loosed inside familial aggregates.

Most notably, all three sets of relatively different inkplate stimuli yielded remarkably similar imagery data. The variety of imagery content associated to one set occurred through exposure to the other sets. There were variations, but the similarities were remarkable. Location, color, or its absence, and individual plate structures did make differences, but the stream of content varied little when analyzed closely. His supernatural-evil images excited him visibly. This was not feigned, he appeared to identify with them. Vaguely conscious of the impression he might be giving, he remarked, prefacing one of these images with the comment that it "might put him in a straight-jacket." We take the similarity in the content of his

stream of imagery (particularly his poor form quality supernatural images) to illustrate *autism* as a seminal feature influencing his perception. We define autism as an inner percept imposed on blot contours with little or careless concern about the fit of the image to blot areas. From this we gather that we are dealing with more than an ordinary juvenile sociopath. Perusal of his developmental history records his sociopathy. However, the inkplate materials point further to borderline paranoid schizophrenia. Outwardly, he appeared adapted in some ways (some of the data explains his capacity to present a conventionally adapted facade; for example, the relatively conforming imagery on Plates IV and VI), rather like a bright, but poorly controlled spoiled youngster. However, it is highly probable that autistic thought had been present long before the murders. Not all juvenile murderers may have psychotic features, but we feel confident this one surely did. The picture seems to be a borderline schizophrenia with a sociopathic understructure.

The data show hallmarks of the adolescent delinquent. These include sharp passive-aggressive contrasts, virility-prestige strivings far beyond the ordinary, and in his case, an enormously strained compensatory camouflage when anything threatened him with exposure of a morass of inner weakness. His inner imagery reflects preoccupation with prowess, predation toward weaker creatures, sadistic fantasies, and the recurrent representatives of the forces of evil. Outwardly, he acquired and dressed in the trappings of power, perhaps reflecting delusions of Nazi-Napoleonic grandeur.

Careful attention should be paid to the images he produced when limits were tested after the first Rorschach. Here, we see the utter starkness of his primitive energy (to say nothing of his undifferentiated sexuality). Plate II's (D4) female area was "a bullet hitting flesh"; the same plate's phallic area (D3) was "the muscular head of a boa-constrictor"; and Plate VII's female area (D4) was a perceptual inversion as "right and left arms of a strong man flexing his muscles." These images reflect the subject's enormously inflated

ego, swollen with energy to dominate or tyrannize, the ultimate in unrelatedness. We would speculate that in this form of murder, the underlying psychological complex is an *obsession for power*. We suggest that lust for power transcends all other motives including sexual ones. Incestual wishes or a severe mother-complex simply do not go far enough as explanations of this form of violence. Those psychological qualities which are common enough, seldom if ever, lead to the annihilation of an entire family. Other, or additional variables must be operative. There is also the point that if he had gotten away with his murders, he would have been the sole member of his family left, providing him with full power over his wealthy grandmother.

Elsewhere this writer (1971) has reported and studied another youth who killed his mother and sister. However, he was 5 years younger than the present subject. This makes it difficult to compare the two cases directly, yet there was much in the younger boy's Rorschach that pointed toward a power-complex having dominated his consciousness.

No one who examined the subject was able to demonstrate that he acted under the command of hallucinatory voices. Satan's laugh came *after* the acts, and he was rational enough not to shoot himself (which was not the case with the younger boy mentioned above).

While it is tempting to discuss the symbolism and implications of many of the subject's images, our purpose here is merely to give an overall view. Readers may use their own schools of thought to mull and analyze his content. We simply emphasize that the satanic-supernatural images tended to virilize the subject and provide him with an hypnotic-like sense of immediate kinship or identity.

C. G. Jung's concept of the archetype may provide us with an additional way of viewing aspects of the subject's data. Much confusion exists about what Jung meant as he referred to archetypes. This writer (1971) has attempted to amplify archetypal psychology for Rorschach workers elsewhere. The kernel of its meaning requires an acceptance of Jung's belief in a collective stream in the psyche.



The reader may or may not accept such a concept, but nevertheless, it is a useful way of extending one's grasp of the nature of the darker reaches of the psyche. Science is yet to produce a reliable theory of psychic structure, and until that is done, any empirical postulates remain in the scientific spirit. This author has stressed that archetypes are no more than psychic energies which are potentially activated, given specific and appropriate stimuli. Archetypes are not images themselves nor are they universal symbols. Certain kinds of sensory experience (often visual images) may activate archetypal energy. The important or key observation Jung made about this energy was: *this energy has the power to influence the form and content of perception*. If this is correct, it has seminal import for Rorschach theory. This applies *only* to Rorschach images that are not thought-directed; directed thought or consciousness must be bypassed. Using this manner of conceiving, Satan is a visual correlate in our culture with the archetype of evil. He was conjured up to stand for the collective evil tucked away somewhere in all of us. We have no trouble in recognizing him, whether we accept religions or not. He personifies our shadow selves. Given certain psychic conditions (like those found in a borderline psychotic), using Jung's definition, the archetypal energy of evil has the power to influence visual imagery. We speculate that our subject's consciousness was vulnerable to archetypal energy of evil, which in turn, influenced autistic percepts. When this occurs, ego mechanisms are weak or unsaddled, and grandiose ideation absorbs conscious contents. Freud explained these phenomena differently in his efforts to get a vision of psychic mechanisms. Whether one agrees with Freud's thought or not, he also worked within the scientific spirit. Most Rorschach examiners would agree that our subject displayed borderline psychotic thought.

Jung has noted that an archetypal energy-complex of good exists within psychic substance. In a different personality structure, its power-complex may absorb or saturate conscious contents, and the subject develops a savior-messiah

position. Archetypal energy opposite to evil supersedes logic and influences judgment. Liliane Frey-Rohn (1967) has provided a fine discussion of Jung's philosophy of good versus evil as collective energies outside of consciousness in man's psyche.

Another point should be considered in attempting to understand familial murderers. What about the superego in these cases? This author views the superego as entirely a feature of learned, conscious thought. It is a state of mind carefully tended by parents and teachers in developmental years. In this writer's opinion, these murderers are perfectly aware of ordinary superego values. No psychic energy is attached to superego values because of the power of the particular complex (evil, in this instance) floods consciousness and influences perception. Jung has stressed that the shadow is the unconscious *opposite* to the conscious superego. The shadow includes highly undesirable traits which have been banished from awareness of ourselves. Looked at in Jungian terms, this subject fell under the power of the projection of evil in his shadow. His youth was granted his every whim as he grew up, few boundaries, if any, were set for him. His personal shadow (or unconscious opposite to his superego) was probably never sufficiently organized. Overly permissive parents run the risk of a similar condition as they indulge children and view moral values casually. However, this was probably only one of the variables that led to this subject's disastrous acts.

Finally, it is noteworthy to observe that all three sets of imagery data display a paradoxical *alignment of opposites*. Flowers, trees, and various pleasant, neutral images lie beside his satanic figures, power-predation percepts, sadistic fantasies, virility preoccupation, and violence. An uncommonly large number of flower images occur on colored and achromatic plates. Are these simply safe, bland images that reflect his repressed passivity? This author knew the subject well and is certain he was not thinking about the lilies of the field or mulling over studying botany. He treated these images with disdain, suggesting to the

examiner that flowers represented exactly what he *was not*. Yet, as images alien to directed conscious thought, they must have existed as defining a psychological quality in his personality structure. They may have indeed been reflections from his repressed passivity. Yet, their symbolic significance would mean one thing to him, the one thing he could not tolerate in himself: *weakness*. There are other explanations. He had seen lots of flowers at the triple funerals he implemented. Perhaps the essence of flower symbolism includes their meaning as the ephemeral element of existence, a feature the ancients recognized as they laid them beside biers. Robert Burns caught the essence of flower symbolism with his lines, "and pleasures are like poppies spread, you seize the bloom; the flower is shed." There was, however, an alignment of stark opposites in the subject's imagery. This author theorizes that his flowers represented the psychological remains of a struggle between two inner opposites which had held the subject in constant tension: weakness versus power. Power won, and the subject became the pawn of an inflated paranoid compensation. Perhaps the flower images were the fossil remains of the love-side in his mother-fixation. The laugh of Satan may have symbolized the death knell of relatedness and the triumph of evil over good. His love-fixation got transferred to Satan, the archetype of collective evil. Besides filling the subject's inordinate obsession for omnipotence, fixation-on-evil may have neutralized the conflict or tension between contradictory opposites within; the fixation on evil gave or promised him a cessation of the inner struggle. I his might explain his report that he spent the most peaceful night of his life after the murders. This writer suggests that his mother became the intensely hated object, not so much as camouflage for incestual desires, but as a scapegoat symbolizing a capacity to

elicit in him an intolerable sense of weakness and perhaps other qualities of relatedness which had come to be experienced as imperfection. As mother, she symbolized *the good* (no matter what her personal qualities were like) which we suggest had come to mean nothing at all to him. He may have come to the point that not to murder her, her son, and her husband left him open to the one thing his swollen ego could not tolerate: any trace of weakness. Relatedness had come to symbolize weakness in his distorted perspective.

These observations, ideas, and speculations occur as one sifts and mulls the inkblot data. They are no more than that and there are other ways of looking at this data. In any event, this form of violence seems to be on the increase in our society today. We must learn to identify signs that may lead to adolescent violence as early as possible. Including some of Jung's concepts as ways of looking at data, may aid research planning and widen our grasp of how the seeds of violence grow.

#### References

- Behn-Eschenburg, H. *Psychological research with the Form Interpretation Test*. St. Gallen: Zollikofer & Cie., 1921.
- Frey-Rohn, L. In *Evil*, ed., curatorium C. G. Jung institute. Zurich, p. 151-201. Evanston: Northwestern University Press, 1967.
- Kataguchi, Y. *Psychopsy, a manual for Ka-Ro Inkblot Test*. Tokyo: Kaneko Shobo, 1970.
- McCully, R. S. *Rorschach theory and symbolism*. Baltimore: Williams & Wilkins, 1971.
- McMillan, G. *The making of an assassin*. Boston: Little, Brown, 1976.

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## RORSCHACH INKPLATES

## I. 10"

I may turn it in any fashion?

At first some form of an insect.

(?) On ground, about to sneak up on smaller insect and grab it with its claws.

Then a mask.

(?) Minotaur's mask. Greek mythology.

All I see.

Perhaps the head of a bull.

That exhausts it—all I can do.

W-(?) Head of an everyday average bull? Ink looks like horns.

## II. W 18"

V Possibly a butterfly.

The red reminds me of blood—seems like—a squashed cockroach or something like that—or a wound.

I have a terrible imagination.

## BEHN-RORSCHACH INKPLATES

## I. 6"

Head of an insect, such as a wasp.

Another coat-of-arms.

## II. A 12"

I can see a frog that has been dissected, skeleton, skin peeled inside with its blood.

V A witch doctor's mask.

V Head of a wolf.

V Face of an evil spirit, overall impression looks evil.

(?) The red reminds me of blood and the eyes look like the figure is thinking or lusting for blood; the shape of the mouth is also blood and the way the sides project up—sinister face.

## KA-RO INKPLATES

## I. A 3"

Appears to be an eagle—American or Nazi eagle.

Λ Again the head of a bull.

Λ Possibly a coat-of-arms.

V An executioner's hood. The eye slots and comes over the shoulders.

V Head of an ant. WS

## II. A 20"

A wound—the red reminds me of blood.

V Then, an explosion,

Λ I can see something else. Don't know how to describe it. Something of a supernatural being coming out of a container that has burst, it is forming and hasn't taken its complete shape. (?) Kind? I see a crown in the center, possibly the devil, looks gloomy or evil.



## RORSCHACH INKPLATES

### III: 6"

Appears to be two persons arguing over something, wanting to divide it, and each holding onto his half.

(?) Men—young men, I should say, arguing over something with no great value, each demanding his share.

Men (?) Heads, arms. Young (?) Lean and not paunchy and perhaps even a bit muscular.

V Top view of a bullfrog.

Λ Insect that's been blown apart or something.

### IV: 5"

Hmm—appears to be a tree, a gloomy tree you'd see in a dark forest or cemetery.

W Fc'

V I can see a coat-of-arms or family crest.

V Bat possibly.

V Seems some supernatural being with wings.

LS

(?) I guess it will put the straight jacket on me. The Devil, something with great powers, evil powers, evil, gloomy, yet seems majestic and wears crown.

## BEHN-RORSCHACH INKPLATES

III. Two boys arguing over something and both tugging on it and object ripped or broke and each got half but they ruined it.

(?) Perhaps a piggy bank, or a ball and the ball burst and fragments of it falling through the air and at their feet.

V Shape and head, eyes, nostrils, head, no mouth.

(?) Stupid face—not sinister, face of a moron perhaps.

### IV: 12"

Λ I can see a bat.

A coat-of-arms.

Λ A supernatural being with wings, legs, tail, and then a crown—perhaps the devil again.

Also butterfly.

## KA-RO INKPLATES

### III. Λ 8"

First see two figures sitting down playing a game of chess with two goblets in front of them (chess pieces or goblets are same). The figures seem to have an air of anger about them, the red behind them suggests they are arguing over something.

(?) Sort? Men.

(?) Why in particular men? The heads.

V The head of a dragon.

W Nostrils (center red) and fire (outer red).

### IV: 12"

Again looks like a rug, instead of tiger, a bear rug.

V The body of a gorilla, head is missing.

Λ Also see another coat-of-arms.

## RORSCHACH INKPLATES

### V. 6"

- Λ Again I can see a butterfly.
- V Another supernatural being, again with wings. (?) Not the air of authority or as majestic as before—one of the devil's angels, a lesser figure or messenger.

### VI. 7"

- Perhaps a tiger or bear rug, little more like tiger.
- (?) W — Tiger nose and whiskers and body of it stretched out.
- (?) I want to say color, but not really color, the patterns in the shaded areas, the dark blotches—even see stripes or scars from fight, dirt, shaded areas make me think of that.
- V Perhaps a flower, perhaps a tulip.  
No color—impression of a dead flower rather than a living one.
- W — F

### VII. 4"

- First thing I can see is a head of a bull.
- (?) Heavy set, ears and horns, maybe a cow, along those lines.
- Silhouette of two Indian heads facing one another.

## BEHN-RORSCHACH INKPLATES

### V. 6"

- Flying insect, large, no particular one.
- A bird, sleek, black bird.
- A flower.
- (?) Kind? No—usually white with orange center.

### VI. Λ Some sort of tree, perhaps a fir.

- V A flower.
- (?) Kind? Gladiola or iris.
- Λ Some sort of rug, this time a lion rug.
- (?) Lion's mane, and sizeable and husky, and bigger than tiger, but not as huge as bear.
- (?) Eyes.
- (?) Perhaps the shading in the ink.

### VII. Oh boy—umm—again something evil, perhaps a setting for something evil that has not yet come into view. It is not complete, it lacks the main attraction, like a stage, waiting for the devil or something evil to walk through.

I also see the shape and head of the devil, like on someone's body, the features of the devil on another.

## KA-RO INKPLATES

### V. 7"

- Eagle—the wings of the Nazi eagle—huge.
- Could be a butterfly.
- See it as a moustache. W

### VI. 6"

- Λ Another tiger rug.
- V Possibly a flower, something similar to a tulip.
- V Perhaps even a tree.
- (?) Not very large, like a cedar.

### VII. 7"

- Two female figures, perhaps they are on their knees dancing.
- Also see the head of a cow—looks like a cow rather than a bull.
- (?) Horns and they are straight up and down and don't branch out as much as a bull does.

## RORSCHACH INKPLATES

(?) D — youthful braves looking at each other's feather. Hump could be a quiver of arrows.

### VIII. W 20"

V A flower, such as a lily.

V Then another coat-of-arms. Bears on each side climbing up or down from cliff.

### IX. 12"

Appears to be a clown with a big ruffled collar with orange hair.

V Nuclear blast—mushroom cloud.

V Face of some sort of beast—similar to a lion.

W

### X. W 12"

V Some sort of flower with insects flying about it.

Face with Fu Manchu moustache. Oriental—Samurai warrior.

(?) W — Chain mail, Japanese head-dress—with objects around it—oriental design—crabs, two deer.

At first A looks like confusion. It describes my idea of confusion adequately.

## BEHN-RORSCHACH INKPLATES

S A skull surrounded by darkness which I interpret as death.

### VIII. Upper, central D

I see the face of a figure, an evil, comical figure—Joker more than bad-doer.

Coat-of-arms. W

V Perhaps a flower not come yet into full bloom yet.

### IX. A A flower.

V Head of a man, large brown eyes and red moustache, old man (lower sections only), not extremely old.

V Different shaped flower.

### X. 18"

Confusion—a variety of things going on—all are jokers playing jokes on one another, running around in a state of mayhem—all pranksters.

Face of angry man with moustache.

V At top center, a winged figure and rest are around it and it doesn't pay them much attention.

## KA-RO INKPLATES

(?) Female? Curves, the lines, all feminine—long dress.

### VIII. 12"

A Coat-of-arms again.

V A flower.

V A mask—African witch doctor's with vivid colors painted upon it.

### IX. 12"

A Definitely another coat-of-arms.

A Then a flower.

### X. 7"

Once again I can see the face of a Samurai warrior—Oriental decoration.

Once again a figure rising out of a state of confusion, not like the first one, doesn't have a head, less glorious and grand, probably the servant of the other one, maybe a dragon.

V A flower that's dying, falling apart.



(?) So many different ways of putting them together, couldn't get it together, nothing I could identify with, more colorful, each is traveling in its own direction, none have anything in common.

V Winged figure rising out of this confusion—triumphant figure.

(?) D — All was contained in this—tomb opened and this thing escaped, evil, disorder, confusion and this figure brought all these things into the world with him, rising in triumph—quite proud of himself—seems to be his glory—the ultimate goal it was working for.

## LIMITS

### I. (?) D<sub>4</sub>

Yes, I see insect—can't fly, bound to ground—ant.

### II. (?) D<sub>4</sub>

Impact of a bullet hitting something, causing a wound—hitting flesh it was driving at.

### III. (?) D<sub>3</sub>

Head of a snake—boa constrictor, muscular head.

### IV. (?) D<sub>1</sub>

May I turn it?

(No)

Not much except trunk of a tree.

### VI. (?) D<sub>8</sub>

Tiger head.

### VII. (?) D<sub>4</sub>

(?) Right and left arms of a strong man flexing his muscles.

### X. (?) D<sub>3</sub>

Small insect—butterfly.

Best: IV — This is my favorite; Satan.

Least: I.

Why?

Couldn't do much with it—didn't see as much in it.

## P. A. News & Notes

### WANTED

A young--oops! can't say that. Well, since I can't specify qualifications without violating somebody's rights, I'll start over. **WANTED**, a person of any age, sex, race, creed, color, psychologist or non-psychologist, etc., who will volunteer to serve as editor of the Journal's PA N & N section. Some years ago, more than I like to recall, I suggested to the Board that we have a section in the Journal which would include Letters to the Editor, Research Briefs, PA relevant announcements, Who's doing What and Where (in PA), and in a lighter vein, or perhaps not

so light a vein, PA Headlines in the News, etc. Thus, in the old Army tradition, I "volunteered" for the job. The time has come when a Search Committee should recruit a donor who is willing to replace some tired, iron-poor blood with new life. It is now a matter of life and death, so if you wish to volunteer please contact the Search Committee member listed below as soon as possible. PA N & N needs you!

**EARL S. TAULBEE**  
Box 4115  
Bay Pines, FL 33504

### REQUEST FOR DATA

Data consisting of complete subject Rorschach protocols and also their WAIS total and WAIS subtest scores are needed for an investigation which will study the relationship between the Rorschach Prognostic Rating Scale and intelligence.

Please contact:

Anneke Hathaway  
2532 N. E. Stanton  
Portland, OR 97212

## Book Reviews

**James R. Averill (Ed.).** *Patterns of Psychological Thought: Readings in Historical and Contemporary Texts.* New York: Halsted, 1976, 603 + xii pages, \$22.50.

*Reviewed by Paul McReynolds*

*Paul McReynolds, who teaches history of psychology at the University of Nevada, Reno, received his PhD from Stanford University in 1949. He is the author of a number of papers and the editor of two books in the field of the history of psychology.*

This book is intended primarily as a supplementary text for classes in the history of psychology. It consists of a number of selected readings, each preceded by an introduction by the editor. In addition there is a long general introduction, and a brief epilogue, also by the editor.

In recent years a number of collections of readings in the history of psychology have appeared (Diamond, 1974; Herrnstein & Boring, 1965; Sahakian, 1967; Sexton & Misiak, 1971), reflecting, I believe, an increasing awareness on the part of instructors in history courses that students must have some kind of systematic access to primary sources in the history of the field. Since some of these other recent volumes have been quite well received, the question immediately arises, what is different or unique about Averill's volume?

Without going into a detailed comparison of this new book with each of the earlier ones, it can be said that Averill's work is characterized by the following innovative features: (a) the readings are arranged in pairs — there are ten such couplets in all — with each pair consisting of one reading from the whole period preceding 1860, and the other a conceptually related contemporary source. For example, one such pair consists of selections from Thomas Aquinas and Magda Arnold, another of writings by Immanuel Kant and Konrad Lorenz, and so on. (In addition to the ten paired selections, there is an introductory paired section including the general introduction of the editor, already referred to, and a selection from the contemporary philosopher of science, I. S. Kuhn, and also the final epilogue). (b) the total number of selections (10 historical figures plus 11 contemporary authors, not counting the editor's contributions) is much fewer than in most other books of readings with which this one will be competing, though the selections

are at the same time much longer than in other texts, and (c) the most recent historical sources included are those of Darwin and Marx.

It can certainly be correctly said that this volume is sufficiently different from other available books of readings in history and systems as to provide instructors with a clear alternative. Definitely, this is not just another book of readings.

What are its strong points? First, I would mention the contributions of Averill himself, particularly his general introduction and epilogue: these are excellent, indeed superb, and represent a high level of scholarship and critical judgment. Second, all of the selections are meaningful, important, and reasonably interesting. And third, the key idea of linking together writings of early and contemporary authors on related topics works quite well — i.e., it enhances and enlivens the separate selections, and points up the relevance of early historical contributions to the present scene.

A possibly weak feature of the book — depending on the reader's orientation — is the particular selections chosen. Each instructor, I suppose, has his own favorite list of historical figures, and in this sense no compiler can please everyone. For my part, I consider most of the authors chosen by Averill to be highly suitable; however, I would have difficulty justifying the inclusion of Marx to the exclusion of figures such as Hobbes, Locke, and Herbert. This particular example is perhaps a minor complaint, but the fact that Averill has omitted *all* authors after 1859 is more questionable. While Averill is undoubtedly correct in his observation (p. ix) that texts in the history of psychology have typically focussed on the period of the last hundred years, it does not follow that supplementary books of readings should totally ignore this important period.

An interesting question arises concerning the optimal length of historical readings. Averill opts for fairly long selections, and correctly notes that many collections of historical readings include a hundred or more authors, with only a few pages being devoted to each. Whether to select a book with a relatively few long readings, as in Averill, or one with a great many brief selections, as in Herrnstein and Boring, Sahakian, or Diamond is of course up to each instructor, but I should point out that there is a third alternative. This is to go even further than Averill has in the direction of having longer reading assignments, and to require students to read



entire books important in the history of psychology. This approach, which I am currently following with considerable satisfaction, gives the student a chance to become familiar in depth with several key figures in psychology's past. It dispenses entirely with the idea of a supplementary book of readings, but of course does require extensive library resources, and is generally applicable only with small classes.

In instances in which a class is too large for the direct use of library resources, or in which the instructor for other reasons prefers a supplementary book of readings, the collection by Averill has many advantages, and can be highly recommended.

#### References

Diamond, S. (Ed.) *The roots of psychology: A sourcebook in the history of ideas*. New York: Basic Books, 1974.

Herrnstein, R. J. & Boring, E. G. (Eds.) *A source book in the history of psychology*. Cambridge, Mass.: Harvard University Press, 1965.

Sahakian, W. S. (Ed.) *History of psychology: A sourcebook in systematic psychology*. Itasca, Ill.: Peacock Publishers, 1978.

Sexton, V. S., & Misiak, H. (Eds.) *Historical perspectives in psychology. Readings*. Belmont, California: Brooks/Cole, 1971.

**Bernard L. Bloom.** *Changing Patterns of Psychiatric Care*. New York: Human Sciences Press, 1975, 360 pages, \$15.95 Hardbound, Students (5 or more) \$12.95.

#### Reviewed by Rudolph Mathias

Rudolph Mathias received his PhD from the University of Buffalo. For many years he has been associated with the Wisconsin Department of Health and Social Services. He is a Diplomate in Clinical Psychology and consultant at the Psychology Research and Training Clinic at the University of Wisconsin in Madison.

This is a study of the psychiatric care given in Pueblo, Colo., during the years 1959 through 1961 ( $n = 919$ ) and 1969 through 1971 ( $n = 1119$ ). The main part of the book is divided into four parts, 1) Psychopathology and the Community, 11) First Psychiatric Hospitalizations: 1960 and 1970, 111) Psychiatric Care in 1970, and IV) Service Statistics and Epidemiology. Aside from the usual acknowledgements, the book also contains a prologue and samples of the data collection forms, and many statistical tables. References and index are well done.

The author describes the setting and the changes in mental health services delivered between 1960 and 1970. He notes the following differences in the mental health service

delivery system during this decade: 1. Increase in addiction and adolescent difficulties 2. More effective rehabilitation of such groups as the alcoholics, the senile, the offender, and the schizophrenic; 3. New policies and approaches in the delivery of psychiatric services, i.e., voluntary admission, making services more accessible, etc.; 4. New patterns of financing care. Specifically, the author studied 33 census tracts in Pueblo and gave detailed descriptions of changes which occurred in each census tract. He describes a group of 35 different census characteristics which were selected for analysis. "Modern computer technology makes it possible to attempt to reduce the 35 variables to a smaller set, each of which would then include several variables which are so highly interrelated as to be considered as differing measures of the same underlying dimension." These clusters are delineated as "Socioeconomic Affluence", "Social Disequilibrium", and "Young Marrieds."

In his discussion of "the changing character of hospitalized psychiatric patients", several interesting findings emerged: 1) a consistency of first admission rate for schizophrenia (32 cases per 100,000 in 1960 vs 35 cases per 100,000 in 1970); 2) The decreased admission rate for elderly psychiatric patients with inpatient facilities; and 3) the increase in admissions of young people into psychiatric facilities.

The study examines in detail such topics as "Admission Rates and Neighborhood Characteristics", "The Spanish Surnamed Hospital Patient", and "The Length of Episodes of Care", and other related topics.

In the last section of the book, the author presents a chapter entitled "Toward the Control of Mental Disorder." Here he states: "... intervention strategies designed to exercise a preventive or control function would need to be developed at an individual rather than a census tract level, or, to put it another way, that it is persons rather than neighborhoods who should be the target of trial intervention programs."

"Social isolation as a stressor variable" is mentioned and related to the social isolation hypothesis first advanced by Faris and Dunham in 1939. Another variable discussed in detail is categorized as "Minority Status as a Stressor Variable." The author presents a strong case for "the association of some personal and census tract measures of social disequilibrium with rates of treatment for identified psychopathology..." "Of all the measures available to us in the study, variables conceptualized as indices of social disequilibrium have stood out most strikingly as asso-

ciated with psychiatric admission rates."

Finally, the author points out that certain observations which hold true of Pueblo may be applicable to other parts of the country. These observations cast a bleak shadow on the community mental health service system:

Additional mental health services were created and existing services were expanded, but these services function in a relatively uncoordinated manner. While there appears to be sufficient amount of mental health care available and accessible, numerous problems remain. Thus, the expansion of outpatient services did not result in decreased utilization of inpatient facilities. To the contrary, inpatient services were expanded, they developed a sharply increased case load, and they functioned surprisingly independently of the enlarged outpatient agencies. Nearly all inpatients, public as well as private, bypassed the outpatient service delivery system, and new inpatient programs were developed to meet needs which might have been more rationally met in outpatient settings. The greatest increase in admissions into inpatient facilities between 1960 and 1970 took place in that patient group which might be thought of as most suitable for outpatient care — the young and the mildly disturbed. There appeared to be very little planned collaboration, particularly between public and private agencies, and one might argue that most mental health agencies acted as if they were as concerned with expanding their own role in the service delivery system as with providing care which would be most appropriate and least disruptive to patient needs.

This is a highly technical book and it will be of particular interest to the program analyst, and the epidemiologist. It is a carefully documented study. It is precise in its methodology, pedestrian in style, prolific in its detailed statistical tabulations, and plausible in its recommendations.

**H. Bostrom, T. Larsson, & N. Ljungstedt (Eds.). *Drug Dependence—Treatment and Treatment Evaluation*. A Skandia International Symposium. Stockholm: Almqvist & Wiksell International, 1975, 312 pages, 98.00 Sw. Kr. (approx. \$24).**

*Reviewed by Ralph Robinowitz*

Ralph Robinowitz received his PhD degree from the University of Texas over twenty years ago. Except for an internship year in Nebraska with Walter Klopfer and military service as an Army psychologist, he has been with the Veterans Administration in Texas. Since 1972, he has served as Chief, Drug Dependence Treatment Center, Veterans Administration Hospital, Dallas.

Skandia, Scandinavia's largest life insurance company, has for nine years sponsored

an annual symposium in the health field as part of a "commitment (to) prevent and limit accidents, crime and sickness". In earlier years, the critical health problems selected for the symposia were Stroke (1967), Cancer and Aging (1968), Suicide (1971), and Rehabilitation of Central Nervous System Trauma (1974). The critical health topic selected for 1975 (actually presented in October, 1974) was "drug dependence and its possible cures". The drug problem is world-wide (only four of the presenters are from the United States), and, as is now known, is not limited by categories of sex, race, social class, or locale.

The editors of this volume wisely limited the papers presented to drug dependence *treatment* and *treatment evaluation*. Quite good histories and descriptions of the drug dependence *problem* are available on both technical and consumer levels, e.g. Brecher (1972) and Ray (1974). Information of what happens in drug treatment, however, has been largely limited to reports of and by advocates of one modality or technique. What this volume offers is a series of contributions by recognized adherents of various therapeutic approaches to drug dependence. More important there is limited (at times too limited) discussion of each approach by advocates of the other approaches.

The symposium provides excellent coverage of various modalities for drug dependence treatment: (1) "drug free," (2) psychotherapy, (3) methadone maintenance, (4) coercion, (5) psychiatric hospitalization, (6) half-way house, (7) education and reeducation, (8) narcotic blocking agents, and (9) deconditioning. In addition there are presentations of the problems of treatment evaluation and follow-up. The types of treatment range from those applied by highly trained and experienced psychiatrists and psychologists to that of the "paramedical." Karl Evang, former Director General of Health Services of Norway, states in his introduction that drug dependence is not a disease but a symptom of a disorder which is unknown and for which there is no generally accepted treatment model, hence, the variety of therapeutic approaches. What is now happening, however, is an expanding search for new and refined modalities of treatment. In some cases these are "not... (from) the medical researchers' drawing boards but... the initiative and concern of the paramedical experimenters"; more often, changes come from newer movements within psychology (behavior modification, token economy) or psychiatry and laboratory medicine (methadone, L-alpha-acetyl methadol, naltrexone). One current approach is to combine "drug free," methadone maintenance, in-patient care, partial hospitalization, and education within one pro-

gram — the comprehensive drug dependence treatment program. Following Evang's paper, the other principals trace the variety of techniques used in drug dependence treatment.

Four papers in the symposium are selected for special mention. William O'Brien's paper on Daytop Village gives a clear picture of what goes on in the many drug free nonpsychiatric intensive experience programs. Daytop Village has been described elsewhere (Glasscote, Sussex, Jaffe, & Brill, 1972) and the approach has critics as well as adherents, as do all drug-free intensive experience programs. The drug-free programs have shown a marked nationwide growth in the United States and the evolving of such programs is an important factor in drug dependence treatment.

Philip H. Connell has described well narcotic treatment in the United States and England. However, an American reader would feel a slighting of the major treatment modality for heroin addiction. The time and space given to methadone maintenance is brief though the quality of the presentation is good. One would not feel after reading this paper that methadone or 1-alpha-acetyl methadol as replacement drugs for heroin have been adequately described in this paper.

Narcotic antagonists have been available for ten years but an earlier authoritative treatment manual (Glasscote et al., 1972) does not mention such methods, stating that there are but three major forms of present drug dependence treatment: detoxification, methadone maintenance, and residential programs, with a fourth (comprehensive programs) on the horizon. There are those, however, who have always felt that replacing one narcotic (heroin) with another (methadone) is not the solution. Instead they ask the question of why a blocking agent cannot be used (as antabuse for drinking) to diminish the need for heroin by preventing a positive effect from the drug. Abraham W. Kler in a most comprehensive paper, traces the ten year history of attempts to find an ideal opioid antagonist and ends his presentation with a note on naltrexone which is currently much in research as a blocking agent.

Costa J. Harding presents a survey of the scientific literature on the use of psychotherapy in the treatment of drug abuse that if not the first such offering, is nevertheless a landmark in terms of both data and sensitivity of presentation. He traces the approaches for psychoanalysis, individual psychotherapy, group psychotherapy, and desensitization. One is left with the feeling that despite frustration there is a major role for psychotherapy in aiding an individual with drug dependence problems.

It is not difficult to cite omissions in a symposium since this kind of framework rarely

permits covering all aspects of a problem. An omission is noted in the covering of follow-up and treatment evaluation, in the failure to make mention of the National Institute of Drug Abuse project, Client Oriented Data Acquisition Process (CODAP), which is currently in use to provide data on all patients treated in federally-financed drug dependence programs in the United States. Because it was not available at the time of publication, the creative solutions to many problems experienced in follow-up of Bales, Cabrera, and Brown (1977) could not be cited.

Perhaps not given sufficient emphasis also is the rather unusual relationship between the fields of law and health in the drug dependence treatment field. The history of drug dependence treatment is enmeshed in the criminal justice system. Oftentimes drug dependence treatment is affected both positively and negatively by the fabric of laws applying only to substance abuse treatment: confidentiality (P. L. 92-255), treatment as an alternative to incarceration (P. L. 89-793 — the NARA program, and the LEAA programs). In addition, it is not unknown for parole officers, judges, district attorneys, and others to make drug dependence treatment in a voluntary program an alternative to a more confining state. In discussing the effects of a treatment program on an individual, it would be important to know how freely the client chose this modality and what constraints were placed on a treatment program in applying the procedures.

Volumes on prevention, history, and culture, of drug dependence have been written and will continue to be available. What the Skandia Symposium does is to present material on drug dependence treatment, and drug dependence treatment is a prime area crying out for psychologists and psychiatrists to apply research and clinical skills. Too long has the field been left without the resources of the mental health professional in the United States. The symposium is an impressive work that shows what is being done and can be done in drug dependence treatment. It should be of help to those looking for beginning information about the field as well as for practitioners wanting to broaden knowledge. The book is a work that all can learn from and it can only be regretted that it has not yet received proper attention in the United States.

#### References

- Bale, R. N., Cabrera, L. S., & Brown, J. D. An introduction to follow-up evaluation. *American Journal of Drug and Alcohol Abuse*, 1977, 4, 233-249.
- Brecher, E. M. and the Editors of Consumer Reports. *Legal and illicit drugs*. Mount Vernon, N.Y.: Consumers Union, 1972.



Gascote, R., Sussex, J. N., Jaffe, J., Ball, J., & Brill, L. *The treatment of drug abuse*. Washington: Psychiatric Association and the National Association for Mental Health, 1972.

Ray, O. S. *Drugs, society, and human behavior*. St. Louis: C. V. Mosby, 1974.

**Allan R. Buss, and Wayne Poley.** *Individual Differences: Traits and Factors*. New York: Gardner Press, 1976, 275 pages, \$15.00.

*Reviewed by James A. Wakefield, Jr.*

Dr. Wakefield received his PhD in educational psychology from the University of Houston and completed a school psychology internship with the Houston Independent School District. He has published research in personality assessment, ability testing, and language learning. He is currently Associate Professor of Psychology at California State College, Stanislaus.

The Center for Advanced Study in Theoretical Psychology at the University of Alberta has, in the last few years, become the center of trait approaches to psychological research and theorizing in North America (cf. Royce, 1973). Buss and Poley, who are at Alberta, have written a textbook on individual differences that begins with this definition of a trait: "a relatively broad and stable disposition to behave in certain ways that are relatively transsituational." They operationalize traits in terms of factor analysis and proceed to consider the field of individual differences with traits as basic units of analysis.

The authors present a nontechnical description of factor analysis in the second chapter. There is, however, no discussion of the correlation coefficient on which factor analysis depends. If the reader begins the book with a thorough understanding of the correlation coefficient, he or she should be able to obtain from this chapter a general understanding of the rationale of factor analysis and its use in identifying traits as clusters of correlated behaviors.

The field of individual differences is divided into three parts — mental abilities, temperament, and motivation. The mental abilities chapter traces the development of measurement in this area from the univariate intelligence tests inspired by Binet to multivariate theories such as those of Thurstone and Guilford. As with the rest of the book, this chapter is concerned with broad theoretical and practical issues. No effort is made to review recent empirical studies in mental abilities. When the size of a correlation is critical for a discussion, the authors simply mention the level of

correlation typically found. This practice makes the chapter very easy to read.

The next area covered is temperament. Following Cattell and Guilford, the authors of this book consider temperament to be a better term for this area than personality, which they use as a synonym for the entire field of individual differences. Most of the material in this chapter comes from Cattell's work, with some space given to Guilford's and Eysenck's contributions. As with their treatment of mental abilities, the authors' coverage of temperament is limited to the general issues. The controversy over the relative utility of predicting behavior from traits or from situations is discussed briefly. An instructor using this book as a textbook will need to expand on this important issue far beyond its coverage by Buss and Poley.

The chapter on motivation is a grab-bag of needs, values, and political ideologies. Since Cattell, Guilford, and Eysenck receive considerable coverage in this chapter, it might have been a good idea to combine the discussions of temperament and motivation in one chapter.

Chapter six deals with the development of dimensions of individual differences. The first part deals with the emergence of traits and the next part deals with quantitative changes in traits across the life-span.

The chapter on learning, culture, and the environment will be interesting for sophisticated students with backgrounds in both learning and psychometrics, but will probably seem unconvictional and too technical for lower level students. It begins with an attempt to restate general learning principles with the trait, rather than the response, as the dependent variable. After the brief discussion of the formal representation of change, which will lose the typical reader, the role of traits in performance at different stages of practice is discussed. This section and the section on the possibility of measuring environmental "traits" which could be matched with subject traits make this chapter interesting to read.

Chapter eight should lead to some spirited discussions about the "bankruptcy of mastery learning (p. 195)." Buss and Poley question Bloom's notion of vanishing individual differences in mastery learning. The distinction between *psychometric* measures (of individual differences, usually for prediction) and *edumetric* measures (to evaluate the results of educational treatments) is made. Although edumetric tests may yield very little variance in a group of students after a uniform treatment, the administration of a relevant psychometric instrument will show that the individual differences on the treated dimension have in no sense "vanished."

The chapters on the hereditary basis of individual differences and on race, sex, and social-class differences will also prove controversial. Buss and Poley present the general techniques used in behavior-genetic analysis and the empirical findings in the areas of mental abilities and personality. Although critical of the techniques of behavior-genetic analysis and of the possible misuses of this information, they conclude that genes do make a difference in behavior. Following this conclusion, the authors review Jensen's work on the heritability of race differences in intelligence and find it unconvincing. Although (a) intelligence has been shown to have high heritability within white populations and (b) white and black populations differ by from 11 to 15 points on IQ tests, a genetic interpretation of this difference is not justified as long as environmental differences exist.

In summary, this book would make an excellent text for an undergraduate course in individual differences. It would also be useful in a graduate level course to identify the major issues in the field. In both courses, it would be necessary to supplement the Buss and Poley book with reviews of empirical studies. Unlike earlier individual differences texts (e.g., Anastasi, 1958; Tyler, 1965), Buss and Poley do not attempt to review the literature exhaustively. The strength of this book is in presenting a parsimonious view of individual differences using factor analytically defined traits. This approach is the best method of organizing the vast array of ad hoc measures that have resulted from the demands of practical prediction.

#### References

- Anastasi, A. *Differential psychology* (3rd ed.). New York: Macmillan, 1958.  
 Royce, J. R. (Ed.) *Multivariate analysis and psychological theory*. London: Academic Press, 1973.  
 Tyler, L. E. *The psychology of human differences* (3rd ed.). New York: Appleton-Century-Crofts, 1965.

T. J. Cottle. *Perceiving Time: A Psychological Investigation with Men and Women*. New York: John Wiley & Sons, 1976. 267 pages. \$14.95

Received by Stephen H. Getsinger

The reviewer is Chief of Counseling and Rehabilitation Psychology at the Audie L. Murphy Memorial Veterans Administration Hospital and Assistant Professor in the Department of Psychiatry at the University of

Texas Health Science Center at San Antonio, Texas. His major research interest is the relationship of temporal behavior to ego strength, psychopathology, religion, and vocational rehabilitation.

Time is a universal human enigma. Ancient people attempted to predict the future through the study of the courses of the stars while modern counterparts use the computer. Regardless, recollection of the past, comprehension of the present, and anticipation of the future appear human pastimes. Cottle's book is a unique blend of psychological inquiry, sociological analysis, and philosophical speculation regarding human beings' perceptions and attitudes toward time — the fourth dimension. He asks some important questions about time perception and attempts to answer them with a set of ingeniously developed temporal instruments. In most cases his efforts make some good-sized dents in his questions.

After soliciting and analyzing participants' listings of important life experiences, Cottle first investigates whether persons can be placed in a typology based on their orientations toward the past, present, and future. Then, since there is variance in the perceived length of the time zones because the words "past," "present," and "future" denote no specific temporal length, participants' perceptions of the length of time or duration are explored. Since we can fantasize about time past and seek prophetic visions of time future, Cottle next investigates participants' willingness to engage in these behaviors by giving them imagined opportunities to purchase past and future segments of personal and historical time. The meaning of time and the temporal zones is then explored with a semantic differential device along with participants' willingness to actually commit themselves to an anticipated future. In further chapters Cottle investigates and contrasts two models of temporal experience based on Newton's concept of the structural universe in terms of linear time and Einstein's concept of the functional universe in terms of spatial relativity. Included in these discussions are issues of temporal distance, relatedness, and dominance. Within this study he relates the temporal variables to age, sex, achievement motive, and manifest anxiety.

One of Cottle's major findings is that males and females tend to have significant differences in the way in which they perceive time and deal with time-related tasks. These differences may have profound implications for those engaged in the assessment of personality or the modification of behavior by time-linked strategies such as marriage or career development counseling. A very strong thrust of this book is the

interpretation of findings within an integrated framework of psychology, sociology, and philosophy. Thus, the study can profitably be read by students of personality, social systems, and human development as well as anthropology, history, and theology. The style is interesting, and the type size, careful organization, and extensive notes make reading easy and pleasurable. If you're interested in these issues, you might well take, make, and find time to read this book.

**A. James Fix and E. A. Haffke.** *Basic Psychological Therapies: Comparative Effectiveness*. New York: Human Sciences Press, 1976, 285 pages, \$14.95.

*Reviewed by Robert M. Allen*

*Your reviewer has left academia's groves for the jungle of private practice where psychotherapy, behavior modification, sensitivity and contact therapies among others are the trees that hide the forest. How different the real world is from the classroom and from the august observation one-way mirror room. The reviewer eschews the rigors of "doing" psychotherapy but thoroughly enjoys reading and criticizing the process. Thus, with no theoretical or technique axe to grind the following review should prove to be as unbiased as one can be.*

This reviewer suggests that the last paragraph on the last page of the last chapter be read first. Then proceed on to the first page of the Preface. Why? Because the following quote reflects the tone of this book: "In evaluating the validity of any statement in the social or behavioral sciences, then, do not ask 'Whose theory does that come from?' or 'Is this a logical assumption?' Instead always unerringly and doggedly ask this question: 'What evidence is there to support that statement?'" (p. 250).

Have the authors followed their own advice? Yes and no. While reading this volume the reviewer felt that he was perusing, once again, circumscribed interpretations of Lieberman, Yalom, and Miles' *Encounter Groups: First Facts* (1973) and portions of Freedman, Kaplan, and Sadock's *Comprehensive Textbook of Psychiatry* (1975). This last comment is meant to indicate how well these authors have selectively covered the research into the concepts and the techniques of talking psychotherapy and doing behavior modification on the one hand and the emphasis on the plethora of the "opinion" approach to evaluating the effectiveness of these two types of therapy. This is the "Yes" of the above statement.

The "No" is evidenced in the degree to which the authors both humorously and dogmatically suggest the use and nonuse of particular therapeutic techniques based on clinical experience even though they deplore this approach to evaluating the success of therapy (p. 246) in place of objective research data. They possibly feel that this is justified since objective conclusions regarding the utility of therapeutic modes are nonexistent. The communication of the authors' opinions is accomplished directly and by means of subheadings such as, "Aversion Therapy: This Is Going To Hurt You Worse Than Me" (p. 201), and "Implosive Therapy: This Is Going To Hurt Me Worse Than You" (p. 118). Clever, and the message is clearly conveyed.

The Preface opens on a critical note: "The psychological therapies that settled out from the deluge of research in psychiatry and other mental health professions has long been fraught with assumptions, speculations, and broad generalizations" (p. 13). This is strong candor but it is really an incomplete commentary on the state of the art. In the first place, therapies are still settling out with no end in view. Secondly, the research in psychotherapy is miniscule compared with the plethora of "assumptions, speculations, and broad generalizations" so that not all the issues, let alone the answers are as yet in. Thirdly, having read this sentence and the promise made by the authors to "resident psychiatrists, intern clinical psychologists, nursing students, social work students, medical students, counselors in many areas, undergraduates, parents, and even the clergy" (p. 13), this reviewer was about to return this implied panacea in print to the Book Editor of this journal. How could any two authors fulfill the promise to meet the above-listed professional, paraprofessional and lay persons' "plea for a summary and analysis of the relevant research associated with the major psychological therapies" (p. 13) within the confines of 227 pages? Lieberman and his colleagues required many more hundreds of pages in their compendium on group therapies using smaller type and larger size pages.

This reviewer, however, decided to push on only to learn from page 16 that the authors have entered this project with a bias. In a discussion of the objective of this volume they define their approach as "(1) to present research relevant to each technique, (2) to give a critical assessment of each technique, and (3) to unite the best elements of psychotherapy and behavior modification into a single effective therapeutic approach." Thus the stage is set but the title of the book does not indicate that the critique of the therapies would eventuate in a somewhat innovative, in the authors'



views, procedure.

In general, a *caveat* is necessary: throughout the book the authors intertwine their own opinions with the reports of research. The reader needs to bear this in mind lest the opinionated comments take on the mantle of researched conclusions.

One theme merits repetition: "It appears that it is not the therapy but the *therapist* (italics added) who helps the patient" (p. 40). This statement is a major contribution of the book and enhances the usefulness of the many pages devoted by the authors to a discussion of the work of Truax and Carkhuff (1964) and Leiber- man, Yalom, and Miles (1973) in attempting to come to grips with the issues of the who, what and how of good therapy and of a good therapist.

Approximately one-half of the volume is devoted to the various techniques falling within the general rubric of behavioral approaches ranging from classical conditioning to the current crop of modeling methods. The principles, issues and researches relevant to the umbrella term "behavioral therapies" are presented in a manner as to move the reader to the authors' goal of uniting talking psychotherapy with doing behavioral therapy. This is in Part IV, *Ecclectic Therapy and Postscript*.

The authors are like Janus, proponents and debunkers, humorous and biting, humanistic and authoritarian all in the service of helping people. The book is recommended reading, especially for the extremists in both camps: the talking psychotherapists and the behavior mod- ifiers.

#### References

- Freedman, A. M., Kaplan, H., & Sadock, B. J. (2nd ed.). *Comprehensive textbook of psychiatry*. — H. (Eds.). Baltimore: Williams and Wilkins, 1975.
- Leiberman, M. A., Yalom, I. D., & Miles, M. B. *Encounter groups: First facts*. New York: Basic Books, 1973.
- Truax, C. B., & Carkhuff, R. R. Significant developments in psychotherapy research. L. E. Abt and B. F. Reis (Eds.), *Progress in clinical psychology*. New York: Grune and Stratton, 1964.

Norris Hansell. *The Person in Distress: On the Biosocial Dynamics of Adaptation*. New York: Human Sciences Press, 1976, 248 pages, \$14.95.

Reviewed by Robert J. Craig

Dr. Craig is the Director of the Drug Dependence Treatment Center, West Side VA Hospital, Chicago. Formerly, he was consultant to the Chicago Board of Health, Mental Health

Division and worked for almost a decade at the Illinois Department of Mental Health. He is an adjunct associate professor of medical psychology at the University of Illinois at the Medical Center and teaches part-time at the Illinois School of Professional Psychology. Dr. Craig is also a consultant editor to the *Journal of Personality Assessment* and has written several book reviews for this journal.

I was very excited to review this book, having attended many of Dr. Hansell's seminars while working for the Illinois Department of Mental Health. My notes can now be discarded and I can refer directly to this short treatise on crisis, crisis management, (or adaptation as Hansell prefers to call it) and treatment designs cohering around problem solving behavior.

Let me quote from the publisher's release:

Procedures for aiding the person-in-distress in sorting out the conflicts and problems confronting him are described and detailed analyses of the state of distress and the signals that accompany it are presented. Also described are: a method for surveying essential social connections during health and disorder; innovations in reception and emergency services; and in residential and inpatient facilities; and strategies for the management of schizophrenia.

Hansell spends the initial part of his treatise in describing the period "crisis" which he prefers to call "being-in-distress." Offering a framework to scrutinize object losses, the author presents what he considers to be the "seven essential attachments" in man. (Supplies such as food, oxygen and information, self-identity, attachments to a significant person, group membership, roles which convey dignity and self-esteem through performance, money and a comprehensive system of meaning). He then proceeds to describe steps in the adaptational process that are experienced when an individual goes into crisis. Hansell sees disturbed behavior as resulting from the loss of one of the seven essential attachments and presents a theory for reestablishing these attachments through problem-solving behavior. Crucial in this management of disturbed behavior is the process encountered at reception. Hansell correctly theorizes that intakes should be more than information gathering to help an agency. It represents the first point of contact in a treatment system that can offer valuable services and special opportunities to accomplish adaptation and prevent the "relief of sanctuary" (institutional placement). Hansell cites the tasks needed to be performed at the reception level to enhance this adaptational process.

The author is at his best in describing "updated designs for service." Unfortunately, he focuses primarily on the chronic mental patient in elucidating his concepts. I have heard Dr. Hansell report on treatment designs for youth, delinquents and addictions, but these have regrettably not been included in this book. He focuses primarily on treatment designs which reduce "transit time" in programs and promotes concepts of "spinoff groups" that reduce professional encounters while promoting self help. Hansell is highly praiseworthy of such groups as AA, Recovery Inc., and Parents without Partners, because they do not encourage institutional affiliation.

Hansell is very clear that he believes schizophrenia to be biologically based but he is equally clear that environmental interventions can reduce the sequelae of the illness and the duration of its episodes. He concludes with a series of "action reports" which are really case studies on implementing these ideas while he was director of a large mental health service agency in Illinois. These case studies include developing a local reception service for an inpatient psychiatric unit, specifying the roles and career of the "mental health expediter" whose role is to convene social networks, screen-link-plan, reporting on his method of decision counseling, and his last case report describes a plan to provide services over a prolonged period of time to chronic users of a treatment system.

Dr. Hansell is a true innovator in conceptual thinking and he has demonstrated that these techniques can be implemented at the institutional level. He has backed up his theorizing with clinical implementation. In fact, Gerald Caplan has called Norris Hansell the most outstanding community psychiatrist in the nation — quite a tribute from a man who is the most outstanding community psychiatrist in the nation. Nevertheless, the book's strengths are also its weaknesses. The book is terribly difficult to read and the language, while brilliantly composed, is often difficult to abstract and to assimilate its meaning. Here are a few examples: "a large proportion of the professionally made observations concerning a person passing through an adaptational interval can be drawn effortlessly into the service of making predictions of his demise, or into explanation for a prudent disengagement," (p. 77). And again, "the usual presence and activity of a cherishing social network explains why, although an individual is vulnerable to assuming many different types of identity, he is usually recruited towards a closer resemblance of his historical self" (p. 19). Hansell likes using such concepts as "crisis plummage,"

"transit time," "social surround," "sanctuary," (for residential placement) that occasionally interfere with comprehension.

Hansell's emphasis on the chronic mental patient ignores the range of application his system may have in other areas of psychopathology. This reviewer would have preferred to see examples of treatment designs for youth services and addictions, as Dr. Hansell discussed in his many seminars. One wonders why they were omitted. While emphasizing the chronic mental patient, the author belabors social surround and adaptational group methodologies.

Still, this book represents a major conceptual work from a distinguished psychiatrist. Although the news release from the publisher implies this book is for "all those involved in mental health professions and welfare, and for the interested reader," and while the author writes that this book is "addressed to the broad group of thoughtful people," it is the reviewer's opinion that the book is too abstract and abstruse for the majority of mental health specialists. The book appears most relevant to courses designed for policy planning and administration and especially in the mental health areas, or as a secondary resource material for courses related to crisis, community mental health, residential treatment and mental hospital, etc.

I still would give up most activities to hear Dr. Hansell, but I would prefer not to read him.

**Josef Langmeier and Zdeněk Matějček**  
(edited by Gordon Mangan). *Psychological Deprivation in Childhood* (3rd Edition) New York: Halsted Press, 1975, 496 pages, \$19.75.

*Reviewed by A. Rahn Bruhn*

*A. Rahn Bruhn is associate professor of psychology at George Washington University. His interests include assessment issues and clinical work with children.*

In their text, *Psychological Deprivation in Childhood*, Langmeier and Matějček, both psychologists with a specialty in child clinical, have produced a comprehensive and scholarly account of the effects of psychological neglect on children. This detailed study of deprivation should be of special interest to any mental health professional who works with children or seeks to solve the problems which children present to the community. As the book is also intended to be used by the academic commu-

ity, the academic psychologist might consider the text for adoption for graduate level classes in child development or child psychopathology.

The text has many strengths, only a few of which I will speak to below. First, the authors have taken on and executed well the onerous task of critically reviewing differing concepts of deprivation (heretofore, most treatments of deprivation have focused upon a single type of deprivation). The authors also present their own definition (chapter 2), one which appears to have some conceptual promise. Another strong chapter focuses upon extreme isolation and separation (chapter 4), including deserted, lost or "feral" children. Detailed, scholarly, and carefully reasoned chapters are devoted to environmental factors underlying deprivation (chapter 5) and to divergent beliefs of people from different cultures as to what constitutes deprivation (chapter 6). The authors' bibliography is another asset, it extends to 64 pages, including many interesting citations from European journals which are not widely circulated in this country.

Since Langmeier and Matějček are quite interested in psychological deprivation secondary to institutional care (e.g., in orphanages, foster care), I read with great interest what turned out to be a fascinating portrait of institutional care in Czechoslovakia (chapter 7). While I expected that the authors might be somewhat less than candid in their evaluation for political reasons, I instead found what appeared to be an objective discussion of institutional care problems in their country and, in addition, some very interesting long term outcome studies.

I also found the authors' perspective as European psychologists stimulating, for instance, their ideas regarding prevention (chapter 13) deserve the attention of community psychologists. While I found some of their prevention suggestions rather utopian for our society (e.g., p. 36, "paid holidays for working mothers, free and universal medical care, including a free diagnostic service and follow-up care for the entire child population, said care to be integrated into the department of pediatrics), I doubt that many of these suggestions have not been made before in this country. I also noted with interest that Czech mothers are currently given a fully paid maternity leave for one year following the birth of their baby and part-time pay during the second year (yes, Freud and Bowlby are taken very seriously). Since most of us know little about the practice of child psychology outside this country, excepting perhaps in Canada and England, Langmeier and Matějček have done much to expand our pro-

fessional horizons.

Despite the above noted strengths, the text is not without weak areas, some of which are beyond the writers' control. For instance, the quality of the photographs and, or the printing of same is poor, the margins are skimpy and the pages undersized, and the binding is inferior — all this for \$19.75.

A major omission in the authors' treatment of deprivation in childhood is, in my judgment, their failure to include the problem of child abuse. As can be seen from the authors' definition of psychological deprivation, abuse can lead to deprivation, at least as deprivation is conceptualized by the writers:

...psychological deprivation is the psychological condition produced by life situations in which the subject is not given the opportunity to satisfy some of his basic [vital] psychological needs sufficiently and for a long enough period, so that their appropriate actualization and development are obstructed or distorted. (p. 13)

Certainly, child abuse can be an important contributor to such developmental distortions, as mentioned above.

While I found a clear discussion and critical analysis of prior theories of psychological deprivation in chapter 10, I was somewhat disappointed by the authors' own "multi-level" (specifically, four levels) approach to psychological deprivation. These four levels relate to four basic psychological needs which the authors have catalogued and described. Children at each level are divided into "types" — in each case, hyper- or hypo-active in some way (e.g., socially; in attaching themselves to novel others). My major reservation about their theoretical writings was that the "types" at each level, although interesting conceptually, did not appear to have received rigorous research scrutiny by the authors. Thus, we have little idea, for example, of how frequently these types appear under various environmental conditions (e.g., institutional care of various types; foster care).

But the preceding critical remarks should be kept in context. In my view, Langmeier and Matějček have written an important book about deprivation in childhood. While the book has much to offer, I would hope that one of the things which the book will do is to cause us to reflect upon the system of laws in this country which impact upon children. Our children are our future. They deserve at least the basics for a successful life. It is to the writers' credit that they have focused our attention in a compelling but scientific way on the fact that many children do not obtain these basics and that remedies for these problems exist but have not been utilized.



**Eric J. Mash and Leif G. Terdall (Eds.).**  
*Behavior Therapy Assessment: Diagnosis, Design, and Evaluation.* New York: Springer Publishing, 1976, xviii + 382 pages, \$14.95.

*Reviewed by John E. Bassett*

*John E. Bassett is director of the Self-Management Program, a behaviorally based prison rehabilitation program at the Shelby County Penal Farm in Memphis, Tennessee. For the past four years, he and his colleagues have been examining the efficacy of a variety of behavioral techniques with adult male prisoners, ranging from individual and group contingency management systems to response cost procedures, relaxation techniques and social skills training.*

Behavioral assessment has become a timely and popular issue as witnessed by the recent surge of writings on the topic. Just as progress in the physical and medical sciences has tended to follow advances in measurement and assessment techniques, so too may the next frontier of the behavioral approach be contingent upon its ability to refine and resolve many of its assessment procedures. Mash and Terdall have done a masterful job of judiciously extracting some of the more noteworthy early contributions in the behavioral assessment literature.

The 382-page edited text has 22 articles divided into five topical areas: (1) a framework for behavior therapy assessment: theory, assumptions, and strategies; (2) behavioral interviewing; (3) self-report measures; (4) assessment for potential reinforcers; (5) observational assessment.

The strength of the book seems to lie in the outstanding manner in which the co-editors introduce and comment upon each of the topic areas. It is within these pages of commentary that Mash and Terdall have accomplished the difficult — finding central themes and issues that provide a highly useful framework upon which to sort and conceptualize the discrete contributions. Thus, while there are four to six articles offered within each of the methodology areas (interviewing, self-reports, reinforcement, and observation), the co-editors' selections nonetheless minimize redundancy by spanning a broad range of issue complexity. The one exception to this may be the reinforcement section, which appears to be somewhat weak in comparison with the remainder of the text.

Since the text is an edited collection with 16 of the 22 articles having been previously published in other sources, it would seem likely

that most behavioral clinicians and researchers already have many of the articles in their private library. However, the co-editors' commentary sections alone would undoubtedly make the volume a welcome addition. This is particularly so since one very helpful aspect of these commentary sections is the co-editors' listing and discussion of numerous other articles on the same topic. This feature tends to expand the scope of the book appreciably.

In dealing with an area as broad and diverse as behavioral assessment, editors are, by definition, forced to exercise judgment in the selection procedure. As noted, Mash and Terdall have done a commendable job of selecting the more salient articles available for their areas of interest during the early 1970s. The areas they chose not to incorporate (e.g., psychophysiological assessment techniques, assessment procedures in the areas of addictive behavior, sexual behavior, and social skills) may be somewhat disappointing to some readers who utilize these procedures. The only other area disappointing to this reader was the co-editors' decision to exclude the reviewers' comments on the original article by Alan Kazdin. However, these incisive appraisals may be found in the original publication source.

In short, Mash and Terdall's text is a well done synthesis of an increasingly important area of the behavioral literature. The book seems quite suitable for undergraduate classes in behavioral methodology and perhaps warrants required reading at the graduate level.

**Nina Rausch de Traubenberg and Marie-France Boizou.** *Le Rorschach en Clinique Infantile: l'imaginaire et le réel chez l'enfant.* Paris: Dunod, 1977, 350 pages.

*Reviewed by Israel H. Rosenberg*

*In reviewing this French publication, the reviewer draws not only on his first love "his French, in which he was a high school teacher before he was a psychologist, but also his years as a diagnostician and therapist of children in private practice, schools, and hospitals. He is a Fellow of the Society and a Diplomate in Clinical Psychology.*

If this reviewer had occasion to deplore the absence of full protocols in the senior author's *La Pratique du Rorschach* (1973), this current and major contribution to the use of Rorschach testing with children amply rewards one with no less than 70 cases, comprising two-thirds of the study. The goal of these two veteran psychologists of the psychiatric children's

service at La Salpêtrière hospital in Paris was "to make the protocol speak for itself," and, indeed, each one does just that. One can only search in vain for the overly hard-to-interpret, empty or banal protocol. For didactic reasons, these were frankly omitted. Even in the case of coprolalic little Didier, age six, whose first reaction is usually "merde" (shit), one can truly say with the authors that the structure of his protocol shows "ego precociousness."

In the first part, "The Symbols, their Conceptualization, and their Clinical Significance," the authors take their stand with Halpern's (1953) clinical and dynamic approach to children's Rorschachs, as against European and American normative studies. The original Gesell Institute studies by Ames and her colleagues (1974) they feel are "certainly useful but very limited." They then proceed to present the Rorschach as an instrument which with a child is "not a scholarly exercise" but a sensitive dialogue, "close to a session of provoked observation." Their approach to interpretation is one which focuses very specifically on both the classical psychoanalytic concepts of psychosexual development as well as stages of perceptual-cognitive evolution.

The ten cards are reviewed over and over for ways in which children handle them, the meanings of the content and scoring of children's responses — with repeated reference to the significance of each observation for both normal and disturbed behavior. As they put it, "The principal points of reference are ideas of dual relationship, symbiotic or not, triangular relationships, expressions... relative to oral, anal, and phallic phases... all related to the whole of a protocol, modulated by mechanisms of defense." They look in the Rorschach, and present much evidence throughout the text, for answers to major questions. What is the level of self-differentiation? How is anxiety manifested and handled? Are elements of reality, emotional expression, or fantasy used as defense mechanisms? What is the level of psychosexual perception of self, body images, and parental images? It is throughout acknowledged that in children especially perception of form alone ("dynamic form"), adjectives applied to objects or animals, and the simplest of closed-end remarks, all have significance.

Normative study is not abandoned either. From a pool of cases from hospitals, schools, and private practice, groups of about 12 protocols each were composed to present characteristics of "normals" from ages 4 to 10; vulnerable preschoolers; those with "minor deviations" including behavior disorders, the hyperactive, and the neurotic; and the prepsychotic and psychotic among the "major deviations."

Unlike those of many another study, the protocols are obviously those of children from diverse backgrounds. It is also pleasing to see that each case includes the year of testing.

What is most gratifying is the statement of the authors pertaining to the group of "major deviations." Freely translated, it runs as follows: "In the mind of the clinician, all notions of the irreparable or chronic should be excluded. It is important to know that the Rorschach facilitates expression of the destructive and regressive, and it may be that it plays the role of a sensitive camera, highlighting a dimension which in other contexts is camouflaged and kept in the background. One cannot prejudge difficulties of development or adaptation without taking into account the intellectual and cultural equipment of the child, and above all the restitutional or pathogenic function of the immediate environment. One must also keep in mind developing sociomedical points of view that bear on this. It is now recognized that a mode of psychotic functioning exists outside of psychiatric hospitals which 'dramatizes' even the diagnosis of psychosis."

Granted that this is a work that is primarily "clinical" and "dynamic" in orientation; like others of its type leaving questions of quantitative treatment of the data, as it says, "for another context"; and at times very Cartesian in its rationalizing. Still, it represents the best that any clinicians who are both widely informed and deeply experienced can offer, and beats, probably, what we now can provide in this country as text or source-book for students or practitioners with children. To be sure, there are always those kids who will shun those "stupid pictures" and give us bats, butterflies — or nothing.

Finally, one cannot help notice the absence of explicit connections with psychotherapy. The Halpern text back in 1953, at least had four pages at the end. This is perhaps indicative of the different status and role of the clinical psychologist in France.

#### References

- Ames, L. B., Metraux, R. W., Rodell, J. L., & Walker, R. N. *Child Rorschach responses: Developmental trends from 2 to 10 years*. New York: Brunner Mazel, 1974.
- Halpern, F. *A clinical approach to children's Rorschachs*. New York: Grune and Stratton, 1953.
- Rausch de Traubenberg, N. *La pratique du Rorschach*. Paris: Presses Universitaires de France, 1970.

Patrick Slater (Ed.) *The Measurement of Intrapersonal Space by Grid Technique: Volume I. Explorations of*

*Intrapersonal Space*. London: John Wiley, 1976, 258 pages, \$19.95.

Reviewed by: Frederick J. Klopfer

Frederick J. Klopfer holds a Ph.D. in experimental social psychology from Texas Tech University. His research interests include attitude change in small groups, sex differences in social perception and cognition, and social gerontology. He is currently at the Community Mental Health-Mental Retardation Center in Lawrenceburg, Indiana.

The assessment of psychological factors contributing to human existence is becoming increasingly complex. The complexity is a fortunate consequence of advancing methodological rigor for those doing the assessments. Slater promises that his book is a demonstration of the usefulness of various statistical methods he has developed for evaluating repertory grids evolved from Kelly's (1955) Rep Test.

Kelly's Rep Test, administered in standard form, requires the subject to name certain persons in his life who occupy significant social roles such as father, mother, friend, self, boss etc. Then each separate combination of three persons is considered. The subject is asked to name a characteristic on which two persons in that combination are similar to each other and unlike the third. Thus a list of characteristics (constructs) relevant to the subject's method of categorizing social interactions is identified. Examples of constructs might be good/bad, cold/warm, or weak/strong dimensions. Then each significant other (each element) is rated on each construct. A two dimensional grid is thus created, consisting of several elements rated on several constructs.

This standard approach can be altered to fit many research circumstances. Elements need not be persons, nor must constructs be person characteristics. What is fundamental to this approach is that the subject reveal the nature and use of his/her cognitive schema used with given psychological objects. Slater has developed a series of computer programs to analyze such data (e.g., INGRID, SERIES, SEQUEL, DELTA, PREFAN, ADELA, COIN) and this book demonstrates the use of Slater's statistical techniques (he consulted on the analyses for most of the studies) for research in clinical psychology, forensic psychology, social anthropology, environmental psychology, and other areas.

This book will be evaluated by the IGTA (Informal Grid Technique Assessment). It was decided to treat each chapter as an element, as they are authored by different persons. Constructs to be used here were arbitrarily selected, and are (a) useful/useless, and (b) inter-

esting/uninteresting. Constructs were not chosen by triadic comparisons, as to do so would have resulted in 455 constructs, a bit expansive for this review.

Several of the studies reported in this book are quite interesting, notably those in chapters one, five, and six. Perhaps the most interesting is a study of environmental preferences by Peter Stringer (chapter 12). Stringer was concerned with choices among various redevelopment plans for an existing shopping center, as a function of (a) various methods of presenting the alternatives to shoppers, (b) personal construct systems of shoppers, and (c) demographic characteristics. Stringer was also testing some theoretical assumptions, a trait not shared by some other studies in this volume.

Less interesting research reports tended to be less interesting because they read like statistical exercises. For example, chapter 7, by Slater himself, devotes 13 pages, or 68 per cent of the text to results, alone. In this book's introduction, Slater promises that it contains "papers on applications" while "methodological material" was to be reserved for a later volume. This promise seems not always kept. Another problem is apparent in an article on the use of the Grid Technique with children (chapter 2). The refutation of other standard diagnostic techniques for children is sufficiently vitriolic to alienate the reader. The Grid Technique may be useful, but it will likely be used in combination with other established approaches.

The general usefulness of the Grid Technique does seem to be amply demonstrated in this volume. This is exemplified by studies in chapters 1, 3, 12, 13, and 15. Chapter 15, for example, is a study by John Simons on the extent to which the goals of a family planning program have been accepted by Javanese midwives. Studies not thought to be interesting were likely to be thought not useful, but some were useful (for demonstrating the Grid Technique) although not interesting. This paradox results from possibilities of response bias from subjects in some studies. For example, prisoners were reluctant to report predispositions to deviant behavior (chapter 13), women were less likely than men to discriminate between evaluations of wife and mother roles (chapter 9), and Javanese midwives tended to overtly approve of modern family planning techniques when interviewed by persons responsible for teaching them the techniques.

Nonetheless it is always a valuable endeavor to attempt the introduction of new techniques in social science research. The grid technique is particularly advantageous in that it limits the ability of the experimenter to mistakenly equate his/her diagnostic or explanatory schemas with those of his/her subjects. For



this benefit the technique is worth further consideration, as are Slater's adaptations of it.

As for Slater's effort alone, he claims that this book should be treated as follows: "First try only the finished product, and if it is good enough enquire afterwards for the recipe with the requisite advice on ingredients and preparation" (p. 4). This reviewer will sample the feast a bit more before requesting the recipe.

**Charles D. Spielberger, and Rogelio Diaz-Guerrero, (Eds.).** *Cross-Cultural Anxiety*. Washington: Hemisphere Publishing (Halsted Press), 1976, xii + 195 pages, \$17.95.

*Reviewed by Lita Linzer Schwartz*

*The reviewer, a Professor of Educational Psychology, has conducted research in trait anxiety, cultural pluralism, and trans-disciplinary areas. She has a special interest in the study of cross-cultural similarities and differences as they affect student achievement.*

The twelve chapters in this book are an outgrowth of a Symposium on Cross-Cultural Research on State and Trait Anxiety presented at the XVth Interamerican Congress of Psychology (Bogota, Columbia, 1974). The focus of the book is on studies of anxiety in Brazil, French and British Canada, Turkey, Puerto Rico, Greece, Italy, Mexico, the United States, and Sweden. Before leaping to a judgement of bias in the omission of African and Asian studies, it should be noted that preliminary research is in progress in these areas. It is pointed out that "Obtaining semantic equivalence between Western versions and the tonal languages of Southeast Asia or the nonliterate tribal languages of Africa may prove impossible" (p. 181). The equivalence needed is for the anxiety scales used in the research reported here.

The introductory chapter clarifies the concepts of stress, threat, and anxiety, and between state and trait anxiety, with a relation of the latter two concepts to anxiety as a psychobiological process. Anxiety measurement and the development of the State-Trait Anxiety Inventory (STAI), the principal measure used in these studies, are also discussed here. The Inventory consists of two scales, each with 20 self-report statements. Problems of development and standardization of appropriate translations of the scales for use in cross-cultural research are presented in the second chapter. As Spielberger and Diaz-Guerrero state, "Knowledge of personality theory and psychopathology are as essential

in the translation of an anxiety scale as an adequate background in the original language and in the language of the translation" (p. 17). Examples are given of the development of the Spanish and Hindi forms of the STAI in this chapter, and of other forms in subsequent chapters.

Each of the next nine chapters, prepared by authors from several countries, discusses research on anxiety in a particular cultural context. In some cases, the emphasis is on the development and validation of the anxiety scale equivalents; in others, the stress is on utilization of the scales as instruments in research studies. It is not always easy to extrapolate the cross-cultural data because of these differences in purpose, as well as variability in ages, sex, and educational levels of the subjects tested. However, it is apparent from the extensive statistical analyses and discussions of the data obtained that the STAI has good potential as a tool in both intra and inter-cultural research. One study, on children in Austin and Mexico City, did not use the STAI, but instead employed the Test Anxiety Scale for Children and the Holtzman Inkblot Technique. Conclusions were drawn from these data on sex and cross-cultural differences in anxiety.

The concluding chapter, by Wayne Holtzman, is a critique of the studies included in the book. Holtzman briefly reviews the nature of state-trait anxiety theory and the difficulties inherent in self-report scales before commenting on the individual studies. Variability in level of sophistication and quality of research design are noted. Particularly positive comments are given about the translations of the Turkish and Spanish children's scales. Holtzman and this reviewer are in agreement that the availability of this instrument in several languages should facilitate cross-cultural research on anxiety, especially as the research designs are improved.

The book is recommended as a basic work to psychologists, psychiatrists, and other professionals working with bilingual/bicultural populations. It is a consistently interesting exploration of one aspect of personality that should prove both provocative and stimulating to readers, be they in the helping professions, sociology, education, or cultural anthropology.

**Hans Wallach.** *On Perception*. New York: Quadrangle/The New York Times Book Co., 1976, 490 pages, \$15.00.

Reviewed by Risto Fried

The reviewer was an undergraduate at Swarthmore (seminar with Hans Wallach, 1949), received a PhD from Harvard, and at present is associate professor at the University of Jyväskylä, Finland. Interests include interaction of cultural, personality, and stimulus variables on projective tests.

Everyday perception contains many phenomena easily taken for granted. Why does the moon look a pale white during daytime and luminous at night? Could this phenomenon be reproduced indoors, using an ordinary piece of paper for the moon? Why does a piece of coal in sunlight look black, and a patch of snow in shadow look white, although the former reflects far more light onto the retina? If a gray surface seems to retain its hue even under markedly different intensities of illumination, how is it that it seems to divide into two halves with different shades of gray when placed across the dividing line of a background that is half black, half white? Are two different principles—constancy and contrast—necessary to explain these paradoxical events, or does a single law of perception suffice?

Hans Wallach approaches problems of this type with an attitude that combines the fascination of a child in the question-asking stage with the ingenuity of a scientist. The answers he discovers are often of a clarifying simplicity that makes his work look deceptively easy. In fact it has involved a supreme mastery of both analytic and synthesizing modes of thought.

The work that Hans Wallach has published over the past 40 years exceeds the compass of a single volume. But this, his only book to date, makes available 34 papers originally published in a variety of journals and books, from *Perception & Psychophysics* and the *Journal of Experimental Psychology*, to the *Journal of Personality and Scientific American*. Some of these, moreover, have been completely rewritten and updated, or translated from German; even a dedicated collector of Wallach reprints could not have assembled this book. The main areas covered by Wallach refer to perception of color and brightness, depth, and movement; constancy phenomena; the role of learning and memory in cognition, and particularly the way in which adaptive and compensatory processes are developed (e.g., why the perceived environment does not jiggle and bounce as one walks).

Wallach's early training, as a collaborator of Wolfgang Köhler, was in Gestalt psychology. A holistic and broadly humanist orientation has continued to characterize his outlook. He began to diverge from an orthodox

adherence to Gestalt precepts, however, when it developed that Köhler's hypotheses on isomorphism (the structural identity of experiential and cortical events), although brilliantly conceived, were not scientifically tenable.

As Carl Zuckerman states in the introduction, Wallach has many illuminating ideas on emotion and motivation, problem-solving and creativity. It is unfortunate that he has not written on these areas. His work on perception, thought-provoking as it is, gives all too fragmentary a picture of the scope of Wallach's thought.

As a teacher, Wallach was lucid, plain-speaking, warmly open and easy to approach. These qualities do not always come across in his book. It is presupposed that the reader is well grounded in the psychology of perception, with specific emphasis on Gestalt terminology, and is conversant with the main issues and theoretical controversies in the field. Probably there are psychologists who would be interested in Wallach's ideas, but who will find this book difficult. A little more contextual information, plus a glossary or occasional explanation of technical terms, would have been helpful. Further, there should have been far more lavish use of illustrations. Some chapters make unconscionable demands on the reader's powers of visual imagery. Unless one can construct accurate imaginary models of the apparatus and experimental phenomena described, and with eidetic vividness retain in the memory the many changes that occur under various experimental conditions, the reader will scarcely be able to derive much meaning from the text. Illustrations are expensive, but the reader ready to invest \$15 in a book with the sturdy covers, quality paper, and legible print of this volume would, most likely, have been willing to pay yet a little more for an edition that would have provided visual aids to clear comprehension.

In a review written for this journal, it may be appropriate to concentrate on the areas in which Wallach comes closest to problems of interest to clinicians. He touches on questions that are basic to Rorschach psychology: perception of apparent motion, apparent three-dimensionality, and of meaning as a quality that seems inherent in the object perceived rather than assigned to it by the perceiver. In dealing with these problems he is well aware that it is essential that both the qualities of the stimulus situation and the contribution of the observer be precisely specified. The care with which he eliminates irrelevant or interfering features of the stimulus, and with which he specifies and controls the factors to be measured, is exemplary. With the notable exception of Baughman's and Exner's studies, there

has been very little in the Rorschach literature to compare with this. In discussing the stimulus characteristics of the test blots, various writers have attributed significance to specific portions of these highly complex forms without making any attempt to control for the contributory effect of other portions. Wallach, dealing with stimulus situations and behavioral hypotheses much more simple than those involved in clinical diagnosis, demonstrates what care is needed if unwarranted conclusions and interpretive errors are to be avoided.

Precisely because he is so thorough in dealing with the stimulus aspects of the situation, it is disappointing that Wallach, aware as he is of their importance, does not go further in studying the observer variables. Though he refers to a number of classical studies of motivation and personality factors in perception, Wallach's own extensions of these experiments aim only at clarification of the cognitive and learning factors involved. In one experiment, Wallach presented subjects with a blot that looks like a dog when presented horizontally, or like a caricature of a man's head with a chef's hat when presented vertically. Presented with its axis at a diagonal slant, the blot becomes more ambiguous, capable of identification as either dog or chef. Using this figure in a sensitive and sophisticated research design, Wallach succeeded where earlier investigators had failed in demonstrating that retinal localization affects recognition. But he had to discard almost half his subjects because so many were unable to interpret the blot in its vertical position as a human figure. The average clinician, not perhaps very knowledgeable about retinal locations and cortical pathways, could have predicted that an animal response to the blot would for most people be easier to give than a human one. And he might have been interested in finding out more about personality differences between the "good" subjects and the discards.

There are many other instances in which Wallach comes tantalizingly close to studying phenomena of interest to clinicians, but refrains from touching them. He explores the adaptation process by which distortion of an object's shape is transformed into object constancy, but not the conditions under which established constancies break down, as in the Isakower phenomenon. He pinpoints the stimulus conditions under which an object becomes luminous in appearance, but does not comment, as Piotrowski and Greenacre have, on the conditions under which intense emotion can make a dark object bright, or an ordinary object luminous. He discusses the conditions under which an object becomes invested with the quality of familiarity, but

not the conditions — as in experiences of depersonalization — in which objects or the self can be divested of that quality. Wallach's emphasis on the stimulus half of stimulus-organism interaction, and his confinement of attention to universal and normal rather than individually varying and pathological processes, do not stem from lack of interest. Probably they can best be attributed to a healthy respect for undue complication on the part of a scientist keenly aware of the complexity of even the simplest psychological phenomena. But it would be a mistake for students of personality to ignore Wallach's work. The combination of creativity and rigor with which he invests his study of "simple" questions could well serve as a model for those who bravely attempt to explore "deeper" issues.

### References

- Baughman, E. E. An experimental analysis of the relationship between stimulus structure and behavior on the Rorschach. *Journal of Projective Techniques*, 1959, 23, 134-183.
- Exner, J. E. Achromatic color in cards IV and VI of the Rorschach. *Journal of Projective Techniques*, 1961, 25, 38-40.
- Greenacre, P. Vision, headache, and the halo. In: *Trauma, growth, and personality*. London: Hogarth Press, 1953.
- Isakower, O. A contribution to the pathopsychology of phenomena associated with falling asleep. *International Journal of Psychoanalysis*, 1938, 19, 331-345.
- Piotrowski, Z. A. *Perceptanalysis*. Philadelphia: Ex Libris, 1965.

**Lewis Yablonsky.** *Psychodrama: Resolving Problems Through Role Playing*. New York: Basic Books, 1976, 293 pages. \$10.95.

*Reviewed by Luciano L'Abate*

The reviewer is Professor and Director of the Family Studies Program in the Department of Psychology at Georgia State University. He has participated as an amateur actor in little theatre productions since childhood, and more recently as the Greek landlord in "My Sister, Eileen" and the Italian smuggler in Agatha Christie's "The Mousetrap." He has also edited manuals on family enrichment programs using various role-playing techniques for couples and families.

This is a good, personal introduction to the life and lore of psychodrama. It would be of interest to the undergraduate in search of a profession or to the graduate in search of a mission. It may appeal to the sophisticated lay-reader in search of a varied background in men-



tal health practices. It may bore the advanced professional, and it may repel the hard-core researcher.

The writer, a long-time student and friend of Moreno, introduces the book with a personal account of how he felt under the charismatic spell of the leader and closes the book with an account on how he bid farewell to him at his death bed. The second chapter gives an idea of the variety of applications of Psychodrama to resolve various life "Scenarios." The third chapter gives a more detailed account of the method, while the fourth chapter compares it with other "action" therapies (Synanon, Gestalt, Encounter groups, etc.). The next three chapters essentially are an enlargement of the method to impromptu groups, mass theater, life in general, and society in particular.

As I read the book, and I put myself in the role of the lay-reader, I felt I received a balanced, positive, and attractive, if not seductive invitation to become more involved as a participant and as a professional through the applications of psychodrama. As I took greater distance from the book after I read it, I asked myself, as a hard-core researcher, what I missed in it, and what I would have liked to see in it if I were anybody else but an interested lay-reader not particularly interested in becoming actively involved in psychodrama.

First of all, I missed a more critical and dispassionate account of psychodrama. The author is so involved with the method that he can-

not distance himself from it. He cannot see or report on any cons, all pros. When is the method discouraged? Who should use it? Under what conditions? By whom? With whom? Where? When?

Secondly, I missed a thorough review of the literature (for this see Wolberg & Aronson, 1976, where 4 chapters are specifically related to reviewing Moreno's work). It would have helped to know the title of some major work by Moreno hinted at or referred to in the text. Without any help from bibliographical references I found this a rather nagging omission.

Thirdly, I missed some reference to hard data or evidence supportive of the method. The greater the claims of helpful intervention, including the ones mentioned by the author, the greater the need to support these claims with empirical evidence. This evidence does not need to fit into any great control or grand research design. It is crucial, however, to present some evidence, if psychodrama is to maintain its lead and its preeminence over other action theories. I know of many studies supporting the helpfulness of role-playing in children and adults, could not the author cite a few? The complete absence of bibliographical references upset the obsessive-compulsive side of my otherwise spontaneous approach to life.

#### Reference

- Wolberg, L. R., and Aronson, M. L. (Eds.) *Group therapy, 1976: An overview*. New York: Stratton Intercontinental Medical Book Corp., 1976.

## Books Available For Review

**Write to Book Review Editor: Dr. Max R. Reed, 6201 S.W. Capitol Highway, Portland, Oregon 97201.**

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- Thomas Blass. *Personality Variables in Social Behavior*. New York: Halsted, 1977. 405 pages, \$19.95.
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- Rolland S. Parker. *Effective Decisions & Emotional Fulfillment, A Guide to Making the Right Choices for Success in Life*. Chicago: Nelson-Hall, 1977. 290 pages, \$11.95.
- Rolland S. Parker. *Emotional Common Sense—The Techniques of Coping With*. New York: Barnes and Noble Books, 1973. 219 pages, \$2.95 softcover.
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- dale, New Jersey: Lawrence Erlbaum Associates, Inc., 1977. 262 pages, price unknown.
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## Rorschach Protocols for Three Diagnostic Categories of Adult Offenders: Normative Data

JOGUES R. PRANDONI and CATHY PODGORSKI SWARTZ  
Forensic Psychiatry Division  
D. C. Mental Health

**Summary** Rorschach norms were developed for an adult offender population. The 172 subjects were divided into four diagnostic categories: nonpsychotic, nonorganic, organic, nonpsychotic, psychotic, nonorganic, and psychotic, organic. Rorschach norms were developed for three of these categories. Major differences among these diagnostic categories and between Beck's adult normative population and the nonpsychotic, nonorganic category are discussed.

The purpose of the present study was to develop norms for the Rorschach protocols of adult offenders in an inner city, court referred population. The clinical experience of the authors suggested that existing Rorschach norms were at variance with the observed performance of the offender population. A review of the literature revealed that there were no available norms for offenders. The authors felt that the lack of norms hampered them in making maximum use of the Rorschach in differential diagnosis. Prompted by this deficit the authors have developed preliminary norms for nonpsychotic/nonorganic, psychotic nonorganic, and organic/nonpsychotic offenders.

### Method

#### Subjects

The subjects were all adult offenders over 18 years of age (range 18 to 54 years) who were evaluated by two staff psychologists at the Forensic Psychiatry Division between 1967 and 1975, and who had received as part of their evaluation the Wechsler Adult Intelligence Scale (WAIS) and the Rorschach ( $n = 172$ ). On the basis of a psychiatric evaluation, social history and the subject's overall performance on a battery of psychological tests, which excluded the Rorschach but included and was not limited to WAIS, Bender-Gestalt, Rotter Incomplete Sentences Blank and Projective Drawings, the authors placed the subject into one of

four diagnostic categories: nonpsychotic nonorganic, psychotic nonorganic (psychotic), organic nonpsychotic (organic) and psychotic organic. Each author independently classified the 172 subjects into these categories. Those cases in which there was disagreement as to diagnostic classification were eliminated from the normative data ( $n = 12, 7.0\%$ ). In addition, six subjects (3.5%) were eliminated due to insufficient data to classify them. Reliability of diagnostic classification between the authors was 92.8%.

The number of subjects in each classification is reported in Table 1. Race, Sex, range and mean ages, education and Verbal, Performance, and Full Scale IQs are also reported for all groups with the exception of the psychotic/organics. Since there were only four subjects in this diagnostic category the authors felt that the sample size was too small to provide meaningful data. Consequently this category was dropped from the study. Both misdemeanors and serious felonies were included in the offenses of the remaining three groups.

#### Measures

The authors scored the Rorschachs of all subjects for number of responses, Rejections, popular percepts, location, plus or minus form level, determinants, and primary content. Number of responses was defined as the number of responses elicited during the performance. Rejections were scored if the subject failed to respond to the card during the performance or if the subject rejected the response during the inquiry. Location, plus or

Table 1  
Demographic Information

	Nonpsychotic/ Nonorganic	Psychotic	Organic
Sample Size	91	34	25
Age	27.57	26.29	32.84
Race			
White	21.98%	20.59%	0.00%
Black	71.43%	79.41%	92.00%
Unknown	6.59%	0.00%	8.00%
Sex			
Male	91.21%	82.35%	92.00%
Female	8.79%	17.65%	8.00%
Education			
Years	10.14	10.97	8.05
Range	3-20	6-20	2-13
IQ			
Verbal	92.91	88.65	76.00
Verbal Range	62-143	64-128	53-97
Performance	92.45	87.13	70.60
Performance Range	60-121	66-123	44-103
Full Scale	91.97	86.97	72.40
Full Scale Range	58-133	66-121	54-89

minus form level, popular percepts and content were scored according to Beck, Beck, Levitt, and Molish (1961). The exceptions were that animal skins were scored *Aobj* and ink, paint or spills were scored *stain*. The determinants *F*, *M*, *FM*, *m*, *C*, *C'*, *c*, *K*, *k* were scored according to Klopfer, Ainsworth, Klopfer, and Holt (1954).

To determine scorer reliability the authors independently scored a random sample of twenty protocols. Reliability ranged from 88.16% to 100%. The percent agreement for number of responses was 99.67%, for rejection 100%, for populars 98.36%, for location 95.72%, for plus or

minus form level 96.95%, for determinants 88.16%, and for content 92.11%.

### Results

Table 2 reports the percent and mean number of responses, rejections, popular percepts, *R* + %, *F* + %, location and determinants for the three diagnostic categories.

In addition to the mean number and percent rejections for the three diagnostic categories, the authors determined the percent each card contributed to the total number of rejections. This data is reported in Table 3.

Table 2  
Response Characteristics

	Nonpsychotic/ Nonorganic		Psychotic		Organic	
	Mean	%	Mean	%	Mean	%
Characteristic						
<i>R</i>	15.53		15.71		12.57	
<i>R</i> range	2-74		8-40		7-26	
Rejections	0.90	9.01	0.65	6.47	0.84	8.40
Popular	4.80	30.93	3.59	22.85	3.48	27.71
<i>R</i> +		76.59		60.90		66.77
<i>F</i> +		72.82		58.14		63.92
Location						
<i>W</i>	4.98	32.06	6.44	41.01	4.76	37.90
<i>D</i>	9.16	59.02	7.59	48.31	6.80	54.14
<i>Dd</i>	0.84	5.38	0.79	5.06	0.36	2.87
<i>S</i>	0.60	3.89	0.88	5.62	0.64	5.10
Determinants						
<i>F</i>	10.88	69.52	10.91	68.07	9.72	76.18
<i>M</i>	1.21	7.72	1.53	9.54	0.68	5.33
<i>FM</i>	1.45	9.27	1.53	9.54	0.96	7.52
<i>FC</i>	0.38	2.46	0.29	1.83	0.20	1.57
<i>CF</i>	0.87	5.55	0.62	3.58	0.40	3.13
<i>C</i> other	0.05	0.35	0.15	0.92	0.24	1.88
<i>C'</i>	0.35	2.25	0.21	1.28	0.16	1.25
<i>m</i>	0.16	1.05	0.53	3.30	0.24	1.88
<i>K</i>	0.04	0.28	0.09	0.55	0.04	0.31
<i>c</i>	0.22	1.40	0.18	1.10	0.08	0.63
<i>k</i>	0.02	0.14	0.00	0.00	0.04	0.31

Table 4 reports the percent and mean number of the various content categories for the three groups. Those categories (*Hh*, *Sc*, *Bl*, *Rc*, *Ar*, *As*, *Pr*, *Ay*, *Mn*, *Dh*, *Mu*, *Rl*) which occurred less than 1% of the time in all three of the groups are not listed.

Supplemental demographic and normative data is available on microfiche<sup>1</sup> for the following subgroups of the three diagnostic categories: White males — nonpsychotic/nonorganic; Black males — nonpsychotic/nonorganic, psychotic and organic.



Table 3  
Percent Contributing to Rejections

Card	Nonpsychotic, Nonorganic	Psychotic	Organic
I	0.0	4.6	0.0
II	8.5	4.6	14.3
III	1.2	0.0	0.0
IV	12.2	9.1	19.1
V	4.9	0.0	0.0
VI	19.5	13.6	19.1
VII	14.6	27.3	9.5
VIII	1.2	0.0	0.0
IX	28.1	31.8	19.1
X	9.8	9.1	19.1

### Discussion

A comparison of the norms for the nonpsychotic nonorganic offender population with the adult norms reported by Beck, Beck, Levitt and Molish (1961) indicate that there are some major differences between these two normative groups. The most striking is the lower response productivity for this offender population. The offenders gave less than half the number of responses that Beck's sample gave. In addition, the offender group gave twice as many W responses and considerably more popular responses. In terms of content, the occurrence of *M* and *Hd* is similar to that reported by Beck. The frequency of animal content (*A*, *Ad*, *Acb*) is much higher for the offender population. Animal content for

the offenders was 60.15% in contrast to Beck's percentage of 46.65. The lower response productivity and the higher frequency of popular, animal and whole responses suggests that the protocols of this offender population are more constricted and stereotyped than the protocols of Beck's population. In spite of this constriction, the overall quality of the responses, as reflected in the *F* + %, was somewhat lower for the offenders. The nonpsychotic nonorganic offenders in this sample obtained an *F* + of 72.82 while the adults in Beck's population obtained an *F* + of 79.25. Constriction has seemingly not improved the overall quality of the protocols when compared with Beck's protocols.

In comparing the nonpsychotic nonorganic, psychotic and organic groups of the offender population, there are significant differences among them in terms of age, education and level of intellectual functioning as well as in their overall Rorschach performance. The organic group is older, has less years of education and shows a greater degree of overall intellectual impairment than the other two groups.

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Table 4  
Associational Content

	Nonpsychotic/ Nonorganic		Psychotic		Organic	
	Mean	%	Mean	%	Mean	%
<i>H</i>	1.74	11.18	1.88	11.99	1.08	8.60
<i>Hd</i>	0.78	5.02	0.53	3.37	0.12	0.96
<i>A</i>	7.75	49.89	7.38	47.00	6.96	55.41
<i>Ad</i>	1.11	7.15	0.56	3.53	0.40	3.18
<i>Aobj</i>	0.48	3.11	0.32	2.06	0.28	2.23
<i>An</i>	0.78	5.02	1.03	6.55	0.92	7.32
<i>Sex</i>	0.11	0.71	0.59	3.57	0.36	2.87
<i>Bi</i>	0.60	3.89	0.35	2.25	0.64	5.10
<i>Na</i>	0.36	2.34	0.38	2.43	0.36	2.87
<i>Geo</i>	0.22	1.42	0.56	3.56	0.16	1.27
<i>Cl</i>	0.14	0.92	0.12	0.75	0.36	2.87
<i>Fi</i>	0.15	0.99	0.18	1.12	0.04	0.32
<i>Cg</i>	0.15	0.99	0.26	1.69	0.08	0.64
<i>Fr</i>	0.15	0.99	0.18	1.12	0.04	0.32
<i>Art</i>	0.31	1.98	0.32	2.06	0.16	1.27
<i>Food</i>	0.14	0.92	0.29	2.87	0.16	1.27
<i>Im</i>	0.10	0.64	0.18	1.12	0.04	0.32
<i>Stim</i>	0.05	0.35	0.03	0.19	0.24	1.91
<i>Abt</i>	0.02	0.14	0.24	1.50	0.00	0.00

A review of the protocols of the groups shows several major differences. One of the most apparent is the constriction in the **organic's record**. The organics gave fewer responses than the other two groups and had less variability in their use of determinants. Over 76% of the organics' responses were based on form alone. Few major differences appeared between the **psychotics and the nonpsychotic/nonorganics** in number of responses and their use of determinants. The degree of impairment in terms of overall response quality ( $R + C$ ) was greatest for the psychotic sample. The organics also showed a significant degree of impairment when

compared with the nonpsychotic non-organic group.

There is comparable variability among the three groups in terms of use of content categories. The only noticeable difference appears to be that of considerably fewer human responses (*H* and *Hd*) given by the organics as compared to the nonpsychotic nonorganics or psychotics.

The supplemental tables indicate that there are significant differences between the **nonpsychotic/nonorganic** black males and white males in terms of mean age, years education, Verbal Performance and Full Scale IQ, with the means for the white males being considerably







ambiguously drawn cardboard figures, one to represent each member of his family, including one as the "Self" and one as a faceless "Mr. Nobody." The child must then drop cards representing assorted positive and negative feelings of varying intensity into boxes attached to these figures. The card statements reflect both "incoming" feelings (i.e., the child's perception of family members' feelings towards him) and "outgoing" feelings (i.e., his feelings towards family members). For example, "This person in the family likes to hug me" is a Positive-Incoming feeling, and "Sometimes I would like to kill this person in the family" is a Negative-Outgoing feeling. If the child does not wish to attribute the statement to anyone in his family, including himself, then he can drop it into the "Mr. Nobody" box.

The FRT does not require the child to produce verbalizations of feelings about members of his family, a task he could conceivably find difficult. Rather, it facilitates the expression of such feelings by having him select from an assortment of statements of feelings which he is to sort. The cards disappear in the boxes and the child cannot see how the distribution of positive or negative feelings accumulates. Thus, the test maximizes the potentiality for expressing strong, directed feelings. Clinical experience with the FRT supports this positive aspect of the test.

The unique information obtained with this test appears to have considerable clinical usefulness. Unfortunately, insufficient data and research exist to conclude that the test will meaningfully differentiate between normal and emotionally disturbed children.

A limited number of studies have been carried out, using the Bene-Anthony FRT. The experimental groups have included pediatric outpatients (Linton, Berle, Grossi, & Jackson, 1961), remedial readers (Kauffman, Weaver, & Weaver, 1971), and mental retardates (Main, 1969) among others. Aside from Bene and Anthony (1957), only Frost (1969), Kauffman (1971), and Swanson (1969) have studied emotionally disturbed boys.

The present research was deemed nec-

essary because, other than the three studies cited above, many of the reports in the literature are only tangentially relevant, (i.e., remedial readers, pediatric outpatients, retardates), to the clinical population of emotionally disturbed boys. Furthermore, those studies utilizing the FRT with emotionally disturbed boys have employed rather small numbers and, or provided insufficient descriptive information regarding the clinical population tested.

The present study was designed to determine the clinical usefulness of the FRT in discriminating between an Inpatient (IP), Outpatient (OP), and a Control group (C). The responses were grouped into the following categories: *Nobody*, *Self*, *Mother*, *Father*, and *Others*.

The information gained from the FRT focuses on areas such as how free or inhibited the child is in expressing his feelings, his self-critical attitudes, his degree of involvement with each member of his family, ambivalence towards his parents, and sibling rivalry.

These clinically important areas which the FRT examines resulted in the postulation of several hypotheses relevant to the purpose of the present study.

(1) It was hypothesized that emotionally disturbed boys would manifest more extreme levels of inhibition or disinhibition than a control group. The level of inhibition was determined by the relatively high or low number of statements sorted into the "Nobody" box.

(2) The IP group would make the most negative statements about the Self, the C group the least, with the OP group falling in between.

(3) In an emotionally disturbed child, the relationship with the mother is expected to be essentially ambivalent, negative, or distant. On the other hand, in the normal child the relationship is expected to be positive and close. Following these assumptions, the number of positive responses, relative to the total number of responses to the Mother category, should be highest for the C group, lowest for the IP group, with the OP group's scores falling between the two. Furthermore, the measures should indicate whether control subjects perceive

the greatest total involvement with their mothers, as the authors of the FRT predict.

(4) Consistent with the reasoning regarding the child's perceived relationship with the mother, a similar or parallel relationship should exist with the father. Likewise, the measures should indicate whether the second greatest involvement of the child is with the father, as the authors of the FRT predict.

### Method

#### Subjects

The subjects selected were boys, between the ages of 9-13 years, each having two parents and at least one sibling in the home. The design consisted of three groups, with 20 subjects per group. The mean ages of the three groups were as follows:

IP (11 yrs. 4 mos.), OP (10 yrs. 7 mos.) and C (11 yrs. 0 mos.)

The clinical subjects were selected from the referrals to the Regional Children's Centre in Windsor, Ontario and the Thistletown Regional Centre in Toronto, Ontario.

The reasons for the referrals are listed in Table 1. It is noteworthy that two years

Table 1

Main Symptoms and Reasons for Referral for OP and IP Groups

	OP	IP
Withdrawn behavior, loner	4	1
Aggressive, uncontrollable	8	7
Learning difficulties, underachieving	3	3
Hyperactive	1	1
Suicide attempt	1	0
Anxiety	1	1
Sexual/child molesting	1	1
Destructive acting-out, and truancy	1	6
	20	20

later, only one of the OP group was subsequently admitted as an IP. For the IP group, the problems were rather similar, but varied in terms of intensity, frequency, and chronicity, with some greater acting out in the community. Three IP cases were diagnosed as having a Non-Psychotic Organic Brain Syndrome and three as having Neurotic Depressions. Otherwise the two groups were remarkably similar in terms of diagnostic labels, with a preponderance of Behavior Disorders. As such, both groups seem to be quite representative of boys referred for treatment.

The IP group was tested within 30 days of being admitted to a residential treatment program, so as to minimize possible long-term institutionalization effects. The OP group was tested as part of an assessment prior to treatment.

The C group consisted of boys living in suburban Toronto and attending Claireville and Smithfield Schools of the Etobicoke Board of Education. Like the two experimental groups, they came from a socioeconomic mixture of lower and middle-class homes. None of the C group had ever been referred by the school or the parents for emotional, behavioral, or learning problems to an agency, clinic, or physician.

#### Procedure

Each subject was tested individually in a quiet room by a trained psychometrist, using the FRT (older child version). The instructions of the FRT test manual were followed, with the subject selecting and "constructing" his own family from an array of 21 ambiguously drawn cardboard figures. The examiner read each of the statements aloud on the 86 cards and handed them to the subject, who then dropped them into the slot in the box attached to his selected figure. In order to obtain a wider distribution or sorting of the cards, the subjects were mildly urged not to put too many into the Nobody category. If the subject placed 30 or more into the Nobody figure (7 of 60 subjects), he was asked to redistribute those responses so as to reduce the number to 30 or less. This was accomplished with little difficulty by the 7 subjects.

Table 2  
Means (Standard Deviations) for Categories on the Family Relations Test

Category	Inpatient	Outpatient	Control	F
Nobody				
Positive Outgoing	2.50 (3.18)	2.00 (2.10)	1.60 (2.03)	<1
Negative Outgoing	3.25 (2.79)	2.25 (2.10)	3.15 (3.10)	<1
Positive Incoming	3.00 (2.60)	2.00 (2.02)	1.70 (1.52)	<1
Negative Incoming	3.70 (2.10)	3.55 (2.14)	5.50 (3.62)	3.37*
Self				
Positive Outgoing	1.82 (1.87)	0.69 (0.83)	0.48 (0.63)	7.11**
Negative Outgoing	2.55 (2.23)	1.25 (2.22)	1.13 (1.43)	3.12†
Positive Incoming	0.30 (0.17)	0.10 (0.31)	0.15 (0.00)	<1
Negative Incoming	0.45 (0.82)	0.15 (0.47)	0.05 (0.24)	2.68
Mother				
Positive Outgoing	4.99 (3.21)	5.59 (1.82)	5.97 (2.40)	<1
Negative Outgoing	1.37 (1.98)	1.15 (1.93)	1.92 (2.11)	<1
Positive Incoming	5.05 (2.96)	4.80 (2.37)	5.45 (2.36)	<1
Negative Incoming	1.99 (1.82)	1.30 (1.45)	1.65 (1.30)	1.00
Father				
Positive Outgoing	2.14 (2.34)	4.24 (2.35)	5.14 (2.53)	8.19**
Negative Outgoing	1.84 (3.00)	1.48 (1.48)	1.38 (2.15)	<1
Positive Incoming	2.65 (2.36)	3.39 (2.12)	4.65 (1.71)	4.72*
Negative Incoming	2.67 (3.33)	2.10 (2.15)	1.97 (1.76)	<1
Others				
Positive Outgoing	6.50 (4.10)	5.29 (3.16)	4.82 (3.13)	<1
Negative Outgoing	9.11 (4.32)	11.80 (3.75)	10.37 (3.82)	2.20
Positive Incoming	5.13 (3.17)	5.10 (3.21)	4.07 (2.95)	<1
Negative Incoming	7.26 (2.70)	8.75 (3.24)	6.81 (3.18)	2.21

†  $p < .06$ \*  $p < .05$ \*\*  $p < .01$ 

The individual distributions were then tabulated on the Bene-Anthony record forms under the following headings: Nobody, Self, Mother, Father, and Others (primarily Siblings), and further categorized into Positive-Outgoing, Negative-Outgoing, Positive-Incoming and Negative-Incoming.

### Results

A comparison of the age differences

between the three groups yielded nonsignificant  $t$  scores. Two of the  $t$  test comparisons of the number of siblings in each group were significant ( $p < .05$ ). Both the IP and OP groups tended to have more siblings than the C group.

The mean number of responses to each category are listed in Table 2. Analyses of variance were carried out comparing each of the three groups in terms of the affective response groups. These will be dis-



cussed under family figure headings as follows:

*Nobody.* The Negative Incoming responses produced the only significant difference between the three groups,  $F(2,57) = 3.37, p < .05$ . Secondary analyses indicated that the C group was significantly different from the IP and the OP groups, which did not differ between themselves.

By combining all the Positive Outgoing and Incoming data sorted into the Nobody category for each group and doing the same for the Negative statements, an interesting trend appears. IP boys seem to inhibit expressing Positive feelings, directed towards or perceived as coming from family members, whereas C boys seem to inhibit expressing Negative feelings (i.e., sort relatively more such cards into "Mr. Nobody").

*Self.* This category typically receives few if any statements, but from a clinical standpoint they are usually quite significant. In the present analysis, the Positive Outgoing comparison was significant,  $F(3,57) = 7.11, p < .01$ . Secondary analysis indicated that the IP group sorted significantly more ( $p < .05$ ) of these self-flattering statements into this category than the other two groups. There was a similar trend approaching significance ( $p < .06$ ) evident in the analysis of the Negative Outgoing scores. The IP group expressed more self-critical statements than the other two groups which did not differ between themselves.

*Mother.* The FRT did not differentiate between the three groups in terms of their perception of the Mother figure. As far as total involvement was concerned, the three groups attributed about an average of approximately three more statements to the Mother than to the Father figure. The expressed relationship was basically positive for all groups.

*Father.* The picture was dramatically different, in terms of the perceptions of the Father figure. Two of the four ANOVAs were significant: Positive Outgoing,  $F(3,57) = 8.19, p < .01$ , and Positive Incoming,  $F(3,57) = 4.72, p < .05$ . Secondary analyses for both the Positive Outgoing and Positive Incoming categories indicated that the IP group attributed fewer

positive statements to the "Father" figure than either the OP or C groups. There was indeed an ambivalent relationship expressed by the IP group, with the C boys indicating a strong positive relationship, much like with their Mothers.

*Others.* Of the 60 subjects only 8 had "Others" besides siblings living in the home and these were spread across the 3 groups. Therefore, the data were pooled and identified as Others.

No significant differences were found when comparing either the total numbers or the affective quality of the responses attributed to Others. Although the OP and IP groups tended to have more siblings than the C group, they did not attribute more responses to them. All three groups perceived a predominantly negative relationship with the Others category. The data probably reflect both displaced hostility and sibling rivalry.

### Discussion

The study attempted to describe and compare two groups of emotionally disturbed boys using normal controls as a third group. As predicted, the majority of the means for the OP group (12 of the 20 categories measured), fell in between those of the C and the IP groups. However, the FRT did not appear to effectively discriminate between the IP and the OP groups. Although they had recently separated from their families, their perceptions of the family relations had not had much time to change at the time of testing. In this way, they probably differed from the institutionalized group of nine seriously disturbed boys, studied by Kauffman (1971), who may have been inpatients for a considerable period of time. Kauffman found that the disturbed boys, relative to a group of normals, tended to report more positive perceptions of family relations, particularly in connection with their oldest siblings.

Bene and Anthony (1957), contended hypothetically that the Mother would be the single most important recipient of responses on the test. The data from the present study did not provide strong empirical support for this, and are thus consistent with the data of Frost (1969), Kauffman, Weaver, and Weaver (1971) and



Lockwood and Frost (1973). In the present study, individual siblings received as many as or even more responses than the Mother figure. Although the latter in fact received slightly more responses than did the Father figure, it was the relative quality of these responses that differentiated the three groups.

It is, in fact, rather difficult to explain the lack of differences between the three groups in terms of how they felt about or perceived their Mothers. When comparing the combined Positive Outgoing-Incoming data with the combined Negative Outgoing-Incoming data, the following ratios were found  $C = 3:1$ ,  $OP = 4:1$ , and  $IP = 3:1$ . It might reasonably be argued that the boys in this study were at an age when identification with their father had become more important than identification with their mother. Unlike girls, they must transfer their close identification with their mothers to their fathers, at about the time they first enter school. This is a difficult transition for boys which fathers can either facilitate or hamper through the relationship they establish with their sons.

The response pattern of the C group to the Mother and Father figures in all categories is almost indistinguishable. This would suggest a consistency in perception of the two parental roles and perhaps a successful transition in identification to the Father. It is striking to note that this response similarity or consistency is not evident in the OP and IP groups.

It is easy to understand the differential responses attributed to the Father figure if one assumes that the quality of the father-son relationship is of great importance in the age group studied (9-13 years). It was not in the area of Negative Outgoing or Negative Incoming responses that the three groups differed. They were much like the Negative responses attributed to Mother. However, it was the degree of the Positive relationship which the boys expressed that significantly differentiated the emotionally disturbed groups from the normal controls. The differential father-son relationships were further underscored when the combined Positive Outgoing-Incoming data were compared with the combined Negative Out-

going-Incoming data. The following ratios were evident:  $C = 3:1$ ,  $OP = 2:1$ , and  $IP = 1:1$ . The last ratio indicates a very ambivalent relationship with the father as perceived by the IP group. Similar ratios approaching 1:1 can be derived from the data of the 'Clinic' group studied by Bene and Anthony (1957) and the Delinquent and Non-Reader group of Frost (1969). Clinically, the importance of strong positive father-son relationships is further supported by the high incidence of emotionally disturbed boys who either have no fathers, or who have infrequent contacts with their fathers who live elsewhere, or have emotionally uninvolved fathers, or those who have a succession of father figures living with their mothers. The need for a male model who would foster a strong positive relationship with the boy, cannot readily be compensated for or duplicated by the mother.

A possible consequence of an ambivalent relationship with the father is an ambivalent self-concept. The group averages in the present study for total Self statements were as follows:  $IP = 5.02$ ,  $OP = 2.30$ , and  $C = 1.83$ . In other words the IP group made over twice as many Self statements as either of the other groups. It seems that they have a greater need to make self-flattering and self-critical statements. It is a common characteristic of emotionally disturbed children to have a very low self-esteem (e.g. Swanson, 1969). This may be even more true of those who are removed from their families, and are admitted to a residential treatment program. It is quite likely that the Self data reflect this low self-esteem and a defense against it, (i.e., making self-aggrandizing statements).

The tendency for the emotionally disturbed boys to express more negative feelings than normal controls was also reflected in the fact that they attributed fewer Negative feelings to the Nobody category. The expression of negative feelings is not necessarily undesirable, yet society disapproves of it. Consequently the expression of such negative feelings through aggressive acting out behavior is often the reason for referral of OP and IP groups.

The interpretation of responses to the

Nobody category is somewhat ambiguous, however, and may be a limitation of the FRI. In the area of Outgoing statements, the child may indeed not have these feelings about anyone in his family. Or he may be unwilling or unable to express these feelings. Likewise, in the area of Incoming feelings, the child may not perceive these sentiments as coming from any member of his family and/or may perceive them and choose to inhibit their expression.

As a final note, it might be useful to point out that in the present study, it was also found that OP and IP boys tended to have more siblings than the C group. Coming from somewhat larger families, they may not have received as much attention or nurturance from their parents which resulted in the latter being perceived as more distant figures. There was a slight tendency for the OP and IP boys to attribute a few more statements to the Other category than for the C group to do so. However, when re-examining the data of four C subjects who likewise came from larger families with 3 or 4 siblings, the same pattern was found. Any full scale research with the FRI would have to take into consideration the number of siblings in a given family, because this factor seemingly affects the number of statements the child attributes to his parents.

# References

Ammentaal, J. A. Relationships among preadolescent reports of their parents' characteristics. *Journal of Psychological Reports*, 1970, 37, 695-700.

Bene, E., & Anthony, J. *Manual for the Family Relations Test*. London: Natural Science Foundation, Research in England and Wales, 1967.

Frost, B. P. Family Relations Test: A normative study. *Journal of Projective Techniques & Personality Assessment*, 1969, 33, 409-413.

Gerber, G. L. Psychological distance in the family as schematized by family roles of mother, father and offspring. *Psychological Reports*, 1973, 40, 139-147.

Gordin, P. C. A review of children's reports of parent behaviors. *Psychological Bulletin*, 1969, 74, 222-236.

Howells, F. G., & Eckstein, J. R. A projective technique for assessing family relationships. *Journal of Clinical Psychology*, 1969, 25, 304-307.

Kadushin, P., Cutler, C., Waxenburg, S., & Sager, C. The family story technique and intra-family analysis. *Journal of Projective Techniques & Personality Assessment*, 1969, 33, 438-450.

Kauffman, J. M. Family Relations Test responses of disturbed and normal boys: additional comparative data. *Journal of Personality Assessment*, 1971, 35, 128-138.

Kauffman, J. M., Weaver, S. J., & Weaver, A. Age and intelligence as correlates of perceived family relationships. *Journal of Personality & Social Reports*, 1971, 28, 522-527.

Linton, H., Berle, B., Gross, M., & Jackson, E. Reactions of children within family groups as measured by the Home Assessment Inventory. *Journal of Mental Science*, 1961, 107, 308-325.

Loveland, B., & Frost, B. P. Studies of Family Relations Test patterns. II. Mother and family members and children. *Journal of Social Behavior and Personality*, 1973, 1, 137-143.

Mah, A. *Family relationships as perceived by institutionalized mental retardates*. Unpublished thesis, Queen's University, Belfast, 1972.

Serfaty, N. M., & Frost, B. P. Psychological aspects of family relationships. *Journal of Projective Techniques & Personality Assessment*, 1969, 33, 414-418.

Swanson, H. M. *Family Relationships: A study of the family relations test*. Unpublished thesis, Queen's University, Belfast, 1970.

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## The Hand Test: Fifteen Years Later

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**Summary:** The Hand Test, a projective device developed about 15 years ago, has gained rapidly in popularity among clinical and school psychologists. A variety of reliability and validity studies have been conducted with the instrument across a broad spectrum of clients and settings. A considerable amount of developmental work has been conducted on the Hand Test since its inception. Research on this test was reviewed and discussed with the conclusion that the Hand Test has merit in many clinical applications for children, adolescents and adults. The instrument has potential in diverse assessment situations and is used today by a wide spectrum of practitioners. Research points toward the Hand Test as being a valuable quantitative multidimensional instrument which predicts behaviors.

Hands have been used as a medium of emotional expression for thousands of years. Egyptian archeological findings dating back to 3500 B.C. show uplifted hands and arms representing the symbol of life (Burdick, 1905). To portray attitudes and to communicate specific religious concepts, members of the Hindu and Buddhist religions used systems of manual gestures (De Kleen, 1924). John Bulwer, author of *The Natural Language of the Hand* (see Norman, 1943), and inventor of the deaf-and-dumb language, suggested that there exists an international language of gesture. The movements of the hand were described by Bulwer as being the only speech natural to man. The hand was envisioned to be the tongue and general language of human nature.

A German physician in the nineteenth century, C. G. Carus, (1848, 1853) was an early pioneer of the physiological study of the hand. By extending his work into the psychological study of hands, Charlotte Wolff, a fellow of the British Psychological Society, felt that she was pursuing a new branch of psychology. Wolff (1941, 1945, 1951) thought that the importance of the hand in psychological diagnosis was due to the correspondence of various action tendencies of the hand with specific anatomical divisions within the brain. She viewed the hand as a tool for learning about the world. Since the hand was seen by Wolff as primary means of transmitting knowledge to specific parts of the cortex for processing, most

of her conclusions were based on studies of the psychology of gesture and the muscular and the nervous systems. Through her research Wolff hoped to obtain a direct knowledge of personality and to eventually create a psychodiagnostic test based on gesture.

In an early study that used pictures of hands as stimuli, Carmichael, Roberts, and Wessell (1937) found that the meaning of projected slide pictures of hands in various manual expressions could be judged with considerable agreement according to perceived attitudes evoked. Prayer, pleading, thoughtfulness, surprise, and fear were found to be the manual gestures most readily recognized. In a second part of the study, the authors found that when clients observed moving pictures of hands, the assigned titles of gestures showing the highest degree of uniformity were prayer, pleading, fear, determination, anxiety, warning, and satisfaction, in that order.

Scheimann (1948), in a study of the relationship of handwriting to the muscular contraction and tension of the hand, evaluated the mobility of the hand, as a diagnostic sign. Stiffness of fingers he thought indicated a reserved, egotistic nature while cooperativeness was indicated by flexible fingers. The hand was observed to be an important medium for communicating.

One of the early social scientists cognizant of the psychological significance of the hand was Sir Charles Bell (1934). Who also wrote *The Hand: Its Mechan-*

*ism and Vital Endowments, an Envincing Design* (1852).

Seeing the perfection of the human hand, both in structure and endowments, we can hardly be surprised at some philosophers entertaining the opinion of Anaxoagras, that the superiority of man is owing to his hand... It is in the human hand that we perceive the consummation of all perfection as an instrument... The hand corresponds to the superior mental capacities with which man is endowed. (p. 252)

In a discussion of the sense of touch localized in the hand Sir Charles wrote:

We find every organ of sense, with the exception of that of touch, more perfect in brutes than in man... But in the sense of touch, seated in the hand man claims the superiority. (p. 272)

*Rationale for the Development of the Hand Test*

Numerous individuals and groups from various societies and civilizations have used hands to portray sacred rites as a means of communicating but it remained for Wagner (1962b) to perceive of the hand in a different manner. A parallel may be drawn between the development of the Hand Test and the Rorschach Psychodiagnostic Inkblot Test. Since the time of Pliny the Elder, people have dabbled with blots of ink. Although scores of experiments and many artists dealt with the medium, it remained for Rorschach to use such intra-examination factors as motion and color, texture and form, to devise a psychodiagnostic examination (Hoover & McPherson, Note 1). Such also was the case with the development of the Hand Test. While many persons dealt motorically with hands, Wagner's insight involved perceiving the placement of the human hand not only as a manual function, but also as being closely linked with overt interpersonal and environmental activities. He thought of hand movement and attitude as being a basic means of orientation in one's immediate psychosocial environment. It seemed to him, therefore, that a projective personality test employing pictures of hands in various positions would reveal important action tendencies of the individual taking the test.

Functionally the human hand is crucial for interacting and relating to the

outside world (Wagner, 1962a):

In the development of the human organism the ongoing, reciprocal, feed-back relationship between the brain and the hand makes it likely that perceptions and cognitions of semi-structured pictures of hands will mirror significant perceptual motor tendencies in the subject. (p. 1)

It cannot be denied that the hand is important in establishing and maintaining reality contact (See Bricklin, Piotrowski, & Wagner, 1962):

Next to our eyes, we probably depend most on our hands to aid us in making our way through life. Every minute of every day our hands serve us in a myriad of functions: from the moment we rise in the morning until we go to sleep — and there is evidence that even in sleep our hands may continue to play an active role, along with our eyes. From washing and dressing ourselves in the morning, throughout our work day, until it is time to sleep, our hands continue to perform. They bring us into continuous contact with our environment. They soothe us when we are ill, tentatively checking other body parts to make sure all is well. They play an integral role in practically all pleasure-producing activities, especially in sexual foreplay. In pre-adult years they serve as the main source of autoerotic pleasure. They are indispensable in helping us to obtain vital necessities. The hands, and not the eyes constitute the final check on what is real in the world. If you should ask a person by what means he knows something to be tangible or real, he will answer: "Because I can touch it." It is because we can touch things that we take them to be real — not because we can see or hear them. When we feel as though we cannot trust our senses, we do not look for a familiar landmark or seek a reassuring tone, we pinch ourselves with fingers of the hand. The hands and not the eyes or ears furnish the most kinaesthetic feed-back, and consequently the most intra-individual information. (pp. 94-95)

According to Piotrowski (1957), the scoring system and rationale for the Hand Test were chosen to meet the following projective criteria:

1. that the visual stimuli elicit a great number of varied percepts from different people looking at them;
2. that each individual produce a limited number of percepts;
3. that the sets of percepts vary from one individual to another to a maximum degree;



4. that the set or pattern of percepts of each individual vary in accordance with the changes in his personality, be these changes slow and gradual or rapid and marked, and
5. that the same formal aspects and the same material content of the percepts have the same connotation for everybody, that the same percept have the same meaning no matter by whom or when produced and be subordinate only to the principle of interdependence of components (pp 1-2)

In addition, it was also felt by the authors of the original Hand Test monograph that the test would provide an approximate index of acting out behavior because it was designed to elicit action tendencies close to the motor system, to reflect behavior — what people do (Bricklin et al., 1962). Further development of the Hand Test rationale is found in Wagner (1978) and Wagner and Haines (Note 2).

### *Description of the Hand Test*

Since the late 1950s Edwin L. Wagner and a few of his colleagues have worked to develop norms and establish evidence of both reliability and validity of the Hand Test. Although much of research has been done by Wagner or under his supervision, other psychologists both in the United States and other countries have conducted investigations to determine the value of the test as a screening device or as part of a general psychological test battery. Since 1961 there have been four editions of the Hand Test manual, each one adding normative data and further refinements.

The Hand Test is a projective test which utilizes drawings of hands in semi-ambiguous poses. It is based on the assumption that prototypal behavioral action tendencies (or lack of them) will be each projected by the subject onto the stimulus. The stimuli are presented on ten cards portraying, with the exception of the tenth which is blank, a differentily positioned hand. The client is asked what the hand might be doing and his responses are recorded verbatim. For the tenth card the testee is asked to imagine a hand in action (see Stone, 1962):

The test to some extent represents a cross between the Rorschach in its scoring, timing, observation of card turning, and inter-

pretation and the TAT in the form of responses and the possibility of a free and interpretation with at some times need for formal scoring. Too, the test resembles some factors of those of M and Tomkins in that we find scoring compartmentalization. (p. 490)

There are no time limits, hence, individuals who are slow in responding, as the mentally retarded, mentally ill, and/or physically disabled, are not penalized. Nor does the examination demand verbal fluency or the ability to hear. The Hand Test can be administered to individuals at most intelligence levels. It is nonthreatening as well as economical in terms of the time required for administration, taking only about 10 minutes to administer and 5 minutes to score.

The Hand Test was designed to be administered individually so that a full range of projective responses could be gleaned. Taylor (1969) tried to develop a group administration for quick screening of residential mentally retarded. Although the Hand Test seemed to be amenable to such an approach, much clinical data is lost under the group administration.

Zucker and Jordan (1968) introduced another instrument — The Paired Hand Test, stemming from Wagner's Hand Test. By using color photographs of two hands in varying relationships, the authors attempted to measure spontaneous feelings toward others along a friendliness-hostility dimension. Again, much clinical data seemed lost with modification of the original instrument. Also, it was impossible to extrapolate the Zucker and Jordan findings to the Hand Test.

A variety of response variations are permitted on the Hand Test even though it employs structured stimuli. The responses are definable and classifiable into categories which were originally designed by Bricklin et al. (1962) but which have been modified over the years by Wagner.

Singer and Dawson (1969) contend that a major weakness of the Hand Test is that the rationale for both scoring and interpreting responses was found in a brief experiment to be similar to what subjects reported they were aware of

intentionally taking Hand Test responses. The authors found that the Hand Test could be falsified when 40 college students were asked to make the "best" and "worst" impression of their personality.

Responses in the current scoring system are divided into four major areas: Interpersonal responses (INT), Environmental responses (ENV), Maladjustive responses (MAL), and Withdrawal responses (WITH). The first two scoring categories, INT and ENV, are typical of normals; MAL is typical of neurotics and the WITH category is typical of psychotics.

Interpersonal responses (INT) are composed of six separate response types: Affection (AFF), Dependence (DEP), Communication (COM), Exhibition (EXH), Direction (DIR) and Aggression (AGG). An Acting Out Ratio (AOR) is calculated by totaling the number of AFF + DEP + COM responses and placing them in a ratio to the total number of DIR + AGG.

The Environmental score (ENV) is derived from 3 distinct kinds of responses: Acquisition (ACQ), Active (ACT), and Passive (PAS).

The Maladjustive score (MAL) is composed of the following 3 different response categories: Tension (TEN), Crippled (CRIP), and Fear (FEAR).

The Withdrawal score (WITH) is a combination of the following 3 distinct response types: Description (DIS), Shame (BIZ), and Failure (FAIL).

The total number of Interpersonal  $AFF + DEP + COM + EXH + DIR + AGG$ , Environmental  $ACQ + ACT + PAS$ , Maladjustive  $TEN + CRIP + FEAR$ , and Withdrawal  $DIS + BIZ + FAIL$  responses arranged in that order, in a ratio, is the Experience Ratio (ER). A Pathological score (PATH) is calculated by adding the total number of Maladjustment scores to twice the total number of Withdrawal scores ( $PATH = MAL + 2 WITH$ ).

As is the total number of responses, not including any FAILS. The Average Initial Response Time (AIRI) is calculated by totaling the ten initial response times in seconds and dividing by ten. If there

are one or more FAIL, the division would be ten minus the number of FAILS. The High-Low score (H-L) is computed by subtracting the lowest initial response time (IRI) in seconds from the highest IRI.

The major content signs of the Hand Test are Sexual Content (SFX), Immature Content (IM), Inanimate Content (INAN), Hiding Content (HID), Sensual Content (SEN), Internalization (IN), Homosexual Content (HOMO), Denial Content (DEN), Movement Content (MOV).

### *Review of the Hand Test Literature*

In order to facilitate understanding the following section of the literature review was subdivided into eight areas according to the nature of the research undertaken with the Hand Test: (a) normative, (b) employee population, (c) adolescent, (d) adult normal population, (e) adult clinical population, (f) handicapped, (g) content categories and the child.

*Normative.* A perennial deficiency of most assessment techniques is the absence of useable norms. There have been 12 research projects undertaken primarily for collection of Hand Test normative data. Single studies were conducted in California (Anderson, 1969), in London (Apostolou, 1962), in India (De Souza, 1972), in New York (Hollister, 1963), in Pennsylvania (Bricklin et al., 1962), and in Texas (Pothoff, 1972). In addition three studies were completed in Ohio (Daugherty, 1962; Gloss, 1962; Vickers, 1962), and two in Oklahoma (Crane, 1972; Roberts, 1973). Most of the investigations dealt with elementary school children. Although the data leaves much to be desired in terms of both representativeness and completeness, the fact that a variety of authors independently have contributed to the Hand Test norms is encouraging.

*Employee population.* Four studies have dealt with the application of the Hand Test in work settings. Three of the projects were concerned with developing the Hand Test as a screening device to select those who would be "better workers" (Huberman, 1964; Rand & Wagner, 1973; Wagner & Cooper, 1963). The

fourth conducted by Thornton (1969) was concerned with the validation of a theory of vocational choice.

**The Hand Test** was found to be a suitable screening device for those employed by Goodwill Industries (Wagner & Cooper, 1963). The ACI variable which emphasizes hand movements, tapped those psychological constructs which distinguished "Satisfactory" and "Unsatisfactory" workers. Huberman (1964) attempted to cross validate these findings by using 18 workers in a plywood mill on the Canadian West Coast. Neither the ACI score, nor any other score in Huberman's research showed a consistent trend of postdicting activity level. When used as an employee evaluation instrument six Hand Test variables (AGG, ACI, FEAR, INI, DEPI, ENV) were found to correlate significantly with ratings of performance criteria of a Police Chief and four Lieutenants (Rand & Wagner, 1973). Results of a study of environmental interpersonal orientation by Thornton (1969) showed that the number of DIR responses significantly differentiated middle-management insurance company employees from technicians and engineers.

**Adolescent.** The prodigious amount of general literature dealing with adolescence reflects the importance of this period in human development. It is a time of sexual, social, ideological and vocational adjustment. The nine Hand Test studies dealing with adolescents have looked primarily at one sample of this population—the delinquent (Azarate & Gutierrez, 1969; Fornari, 1970a, 1970b, 1970c; Oswald & Loftus, 1967; Rogers, 1969; Sarho, 1967; Wagner & Hawkins, 1964; Wetsel, Shapiro, & Wagner, 1967). Typically this research has substantiated the value of the AOS for differentiating delinquents from normals and assaultive from nonassaultive delinquents.

**Adult—normal population.** It has been suggested that neglected area of personality research is the study of normal people. Allport (1937), for example, writes that it is only through the analysis of the normal that the clinician can begin to understand the deviate. Sullivan (1947) also affirms that since personality

can be viewed in terms of definite social psychological stages of development the clinician must first be aware of the normal human process. Seven studies have been conducted which deal with aspects of normal behaviors and their measurement on the Hand Test (Greene, Sawicki, & Wagner, 1974; Higdor & Brodsky, 1973; Hodge & Wagner, 1964; Hodge, Wagner, & Schreiner, 1966; Hoover, 1970; Smart, 1962; Wagner & Hoover, 1971; Wagner & Hoover, 1972). Implications from two of the studies were that the Hand Test could provide clues to facilitate understanding the current problems and personality structure of individuals under hypnotically induced emotional states. Generally the other studies added support to the position that Hand Test responses indicated prototypal action tendencies.

**Adult—clinical population.** Twelve studies were conducted with adult clinical populations (Drummond, 1966; Faidherbe, Choisel, & Bider, 1970; Fornari & Gasca, 1970a; Gutierrez & Sanchez, 1970; Hoover & Wagner, 1970; Major, 1964; Minoura, 1970; Wagner, 1961, 1962b, 1966, 1971, 1973a, 1974; Wagner, Darbes, & Lechowick, 1972; Wagner & Medvedeff, 1963; Weltzien, 1964). A 13th study (Brodsky & Brodsky, 1967) was included in this section because the author felt that research with military prisoners could not be appropriately categorized with those experiments dealing with normal adults. The Hand Test scores were found to differentiate successfully between schizophrenics and neurotic populations. Research has also indicated that organic psychoses, depressions, retardation and antisocial personalities can be analyzed in terms of Hand Test variables.

**Disabled.** Three studies have dealt specifically with handicapped populations. Two of the investigations (Wagner & Capotosto, 1966; Wagner & Hawver, 1965) investigated the value of Hand Test scores of retarded adults. Successful discrimination was obtained between groups of poor workers and good workers. The Hand Test was also shown to correlate with rankings of retardates performance by workshop instructors.

the third study (Levin & Wagner, 1974) extended the Hand Test to a new population, the deaf. The test was found to be reliable in assessing the personality of deaf persons.

**Content categories.** There has been a dearth of research on the qualitative, interpretative aspects of the Hand Test. Hand Test content signs deal with specific response interpretations. These signs were formulated on the basis of clinical experience and remain for the most part statistically unverified. One American study established the validity of two content signs—cylindrical objects and disguised sexual activities (Wagner, 1963). Neurotic males with psychosexual problems produced significantly more of these two content indicators than control neurotics without sexual aberrations. Faidherbe (1968) an intern of Bieder, evaluated the qualitative possibilities of the Hand Test as part of his thesis using the Hand Test with a French population. The test appeared to have diagnostic potential with neurotics, schizophrenics, manic depressives, organic psychotics, mental defectives and delinquents. Two Italian psychologists studied some of the content responses in a qualitative analysis of the Hand Test with an adult population (Fornari & Gasca, 1970b). Results seemed to support the previous American study.

**Child.** The child is ordinarily a more difficult research subject than the adult. Typically, limitations in comprehension, verbal fluency, and the ability to maintain interest, preclude the use of many techniques designed for adults with children. These three limitations do not apply to the Hand Test. Three German studies and five American studies have investigated the Hand Test using children as subjects.

Herbert Selg (1965a) at the Institute of Psychology and Characterology, the University of Freiburg, has presented the Hand Test to many diagnosticians in Germany. In reviewing some preliminary unpublished German experiments, Selg (1965b) recounted how F. M. Bonk confirmed that 7-year-old children generally reacted adequately to the Hand Test cards and could follow the instructions accu-

rately. Children younger than 7, he reported, could not relate to the hands and/or seemed to show perseveration in their answers. Selg (1965b) mentioned another unpublished study, R. Stemmetz, in which 16 children, selected from four elementary grades (mean age 10.9 years old) were differentiated in terms of aggressiveness by the Hand Test. A combination of teacher and peer ratings served as the external criterion for determining aggressive behavior.

Gotzger (1965) conducted an experiment with the Hand Test using public school children in Germany. From an eight-classroom grammar school, boys and girls were selected who had been designated by agreement between teacher and students as extremely aggressive or extremely nonaggressive. Gotzger obtained two extreme groups consisting of 28 children (22 males, 6 females) who had been rated as very aggressive and 31 children (12 males and 19 females) who had been rated as nonaggressive. Selg (1965b) analyzed Gotzger's data using the median test to determine the efficiency of the Hand Test in diagnosing aggression. With a median AOS of 2.4, as a cut-off, the protocols were blindly categorized as aggressive or nonaggressive. The results were highly significant ( $p < .0001$ ,  $\chi^2 = 4.7$ ). **of the classifications were correct.**

Robert Medline (1968) drew 100 Hand Test protocols from the child study department of a large urban school system. These tests had been part of batteries administered to children having learning and adjustment problems. The purpose of the study was to examine the reliability and validity of the Hand Test through a comparison of the (a) Acting Out Ratio and reported acting out, (b) Dependency score and Self-Reliance score of the California Test of Personality, (c) Pathology score and both the school psychologist's judgment of emotional disturbance and Personal Adjustment score from the California Test of Personality, (d) Interpersonal and Environmental score discrepancy and WISC verbal and performance score discrepancy, (e) Descriptive and Failure scores and IQ. No positive relationships were found between the selected variables and criteria.



The case history and results of a diagnostic test battery for a 9-year-old boy with Gilles de la Tourette's Disease were evaluated by Wagner (1970). The symptomatology of this childhood disorder includes tics, bark-like outcries and coprolalia. The Hand Test predicted severe psychopathology, as did the Bender Visual Motor Test, Gestalt Test, Wechsler Intelligence Scale for Children, Rorschach Test and House-Tree-Person. It was impossible to show, however, that any of the Hand Test variables, or other diagnostic test signs, were specific to the particular disease.

Andrea (1971) hypothesized that the Hand Test would discriminate between neurologically involved children and normals. All of the 60 boys and 29 girls placed in approved special class units for the neurologically handicapped in the Summit County School Systems served as subjects for the neurological group. The mean age for the group was 8 years, 11 months, mean IQ = 96.6. Controls were selected from the files of the same schools which contained the neurological children by matching on age, sex, and IQ. The mean age for the controls was 8 years, 11 months, mean IQ = 97.2. Significant differences were found between the two groups. Andrea's neurological group produced significantly more responses (*R*) and had lower response times (AIRTs) than the controls. Since the neurological group responded more they had fewer FAILS. Disinhibition and impulsivity seemed to lead neurologicals to produce some type of responding, regardless of the quality, perhaps explaining why they produced significantly more DFS responses. The neurological group gave significantly fewer INT and COM responses than the controls. The variables most closely associated with personality disturbance such as TEN, CRIP, FEAR, BIZ, MAL, and WITH, did not discriminate between the two groups, suggesting that the neurological sample of Andrea's was no more predisposed than normals to the characteristics measured by those variables.

In a study of 40 public school children enrolled in programs for the emotionally disturbed (mean age 11 years 1.1 months,

S. D. = 19.0 months) of the Oakland Schools in Pontiac, Michigan, Breidenbaugh, Brozovich and Matheson (1971) gave each child the Hand Test in the Fall and again the following Spring. During the two testing periods a person drawing was obtained for each child and the classroom teacher rated the child on acting-out, aggressive behavior.

The correlations between Fall and Spring AOS was .27. According to the authors this result indicated that the AOS was not stable over time. The correlation between the AOS obtained in the Fall and teacher's ratings of the children's acting-out behavior was .22. The correlation between AOS obtained concurrently in the Spring and teacher's rating of the child's acting-out behavior was .06. These results were interpreted to indicate that the AOS was not capable of predicting the degree to which emotionally disturbed children are rated by their teachers as showing aggressive acting-out behavior.

The correlations between the AOS and the clinicians' ratings of children's drawings for aggressive, acting-out potential were .07 (Fall AOS and Fall Drawings) and .05 (Spring AOS and Spring drawings). The AOS did not correlate significantly with the clinician's ratings of children's drawings for aggressive acting-out potential. The authors concluded that the AOS lacks stability and measurement construct, does not correlate with the person drawing scored according to Hammer (1961) and Matheson (1961), and is not useful in predicting acting-out behavior of emotionally disturbed preadolescents rated by the teachers.

The clinician's ratings of person drawings for acting-out potential did not predict teacher ratings of acting-out behavior, and it was concluded by the authors that such drawings should not be used as a validating criterion for AOS. But they still maintained that drawings are an accepted device to assess the potential for acting-out. According to Breidenbaugh, Brozovich, and Matheson, validity must be established within a particular setting for the AOS to be a meaningful measurement construct.

Kronenberger (1975) sought to deter-

mine the ability of the Hand Test to discriminate between emotionally disturbed children and normals. The Hand Test responses of 21 emotionally disturbed children, as diagnosed by psychiatrists and/or psychologists in a psychiatric hospital where they were residents, were compared with the responses from a group controlled for sex and age. Controls were children randomly selected from a public school who had never been referred to a school psychologist. The ages of the emotionally disturbed children varied from 8 years 7 months to 12 years 5 months, with a mean of 10 years 11 months. The ages of the control children varied from 8 years 7 months to 12 years 5 months, with a mean of 11 years 1 month. There were 15 males and 6 females in each group. Significant differences ( $p < .05$ ) were found between these two groups on three of 27 Hand Test variables. Analysis of test data revealed that the group of emotionally disturbed children produced significantly fewer FAIL and DIR responses but significantly more BIZ responses than did the group of normals.

Hoover (1976) evaluated the Hand Test as a screening instrument for children referred to school psychologists in a public school system. When seeing a child who is referred it was thought that school psychologists could benefit from specific preliminary information indicating particular areas where the child was having difficulty so that a more specific battery of tests could be subsequently administered. The Hand Test was selected as an instrument which might potentially meet this purpose. To collect the needed data an exploratory study was conducted using a population of second grade children referred to school psychologists and a matched then randomly selected control group. These two samples were divided into subgroups of boy and girl referrals and controls. All the children were given the Hand Test and rated on adjustment, disruptiveness and learning difficulty behavioral rating scales developed by the author (Hoover & Hoedt, Note 3). Analysis of the data collected showed that some Hand Test variables did differentiate between both referral versus control children and boys versus

girls. When predicting disruptive behavior, the following Hand Test variables were selected using the Wherry-Doolittle Test Selection Method (1931) for the solution of constant values necessary for multiple correlation and prediction: AOS, AGG, CRIP, INV, LHX. Using the same procedure predictors of adjustment behavior were: AFI, LHX, IMP, SEN, WITH. Ten Hand Test variables were selected by the Wherry-Doolittle to predict learning difficulty: ACQ, AOS, DEP, DIS, LHX, MOV, RIP, SEN, SEX, FAIL. The  $R$ s were high, ranging from .30 to .99 but were probably inflated and in need of cross-validation at any rate. The Hand Test was found to be effective in measuring overt classroom behavior.

### *Summary and Conclusions Which Can be Drawn From the Hand Test Research*

The Hand Test appears to be a popular clinical instrument which has been used internationally with a wide variety of clinical and normal populations. Advantages of the Hand Test are: it is easy to administer, economical in terms of time, easy to score, nonthreatening to young children, and that it does seem to differentiate various clinical from normal populations.

It seems that at this point in time, considering the numerous researchers who have evaluated the instrument, the Hand Test has definite merit in the clinical setting, as a screening instrument or as part of a test battery. In a variety of cultures and with various forms of pathology the Hand Test has proven itself to have potential in clinical assessment. Theoretically and empirically the Hand Test has been useful for evaluating a number of syndromes.

As with any clinical instrument, continued analysis and application is urged in order to develop and expand the scoring and interpretation of this device.

### Reference Notes

1. Hoover, T. O., & McPherson, M. W. *A few data boxes in the history of inkblots*. Paper presented at the meeting of the American Psychological Association, Honolulu, Hawaii, September, 1972.

2. Wagner, E. E., & Haines, J. K. *Differentiation of schizoid types with projective techniques*. Paper presented at the meeting of the Society for Personality Assessment, Tampa, Florida, August, 1978.
3. Hoover, T. O., & Hoedt, K. C. *Behavioral rating scales measuring disruptiveness and adjustment to learning difficulty*. Unpublished manuscript, 1977.

## References

- Allport, G. W. *Personality: A psychological interpretation*. New York: Holt, 1937.
- Anderson, M. Means, standard deviations and intercorrelation matrix for 300 juvenile delinquents from the Northern Reception Center, Sacramento, California. In Edwin E. Wagner (Ed.), *The Hand Test*. Los Angeles: Western Psychological Services, 1969.
- Andrea, R. K. *The use of the Hand Test with neurologically handicapped children*. Unpublished masters thesis, University of Akron, 1971.
- Azarate, E., & Gutierrez, M. Differentiation of institutional adjustment of juvenile delinquents with the Hand Test. *Journal of Clinical Psychology*, 1969, 25, 200-202.
- Bell, C. *The Hand: Bridge water Treatise Volume IV*. London: William Pickering, 1834.
- Bell, C. *The hand, its mechanism and vital endowments, and evincing design* (5th ed.). London: Murray, 1852.
- Breidenbaugh, B., Brozovich, R., & Matheson, I. The Hand Test and other aggression indicators in emotionally disturbed children. *Journal of Personality Assessment*, 1974, 38, 332-334.
- Bricken, B., Piottowski, A., & Wagner, E. E. The Hand Test: With special reference to the prediction of overt behavior. In M. Harrower (Ed.), *International review of psychology*. Springfield: Charles C. Thomas, 1962.
- Brodsky, S. I., & Brodsky, A. M. Hand Test indicators of antisocial behavior. *Journal of Projective Techniques & Personality Assessment*, 1967, 31, 36-39.
- Bulwer, J. Article by Norman, H. J. *Proceedings of the Royal Society of Medicine*, London, 1943, 36.
- Burdick, L. D. *The Hand*. New York: Irving, 1905.
- Capotosto, M. Means on individual scoring categories for matched groups of imbeciles and morons from the Lincoln States School, Illinois. In Edwin E. Wagner (Ed.), *The Hand Test*. Ohio: Mark James, 1962.
- Carmichael, I., Roberts, S. O., & Wessell, N. Y. A study of the judgment of manual expression as presented in still and motion pictures. *Journal of Social Psychology*, 1937, 8, 115-142.
- Carus, C. G. Ueber Grund und Bedeutung der Verschiedenen Formen der Hand. In M. Speicher (Ed.), *Verschiedenen Personen*. Stuttgart: Johann Ambrosius Barth, 1848.
- Carus, C. G. Die Symbolik der Menschlichen Gestalt. In A. Schmidt (Ed.), *Ein Handbuch zur Menschenkenntnis*. Leipzig: Johann Ambrosius Barth, 1853.
- Crane, A. J. Junior high school Hand Test norm for American children in the seventh, eighth, ninth grades (Doctoral dissertation, University of Oklahoma, 1972). *Dissertation Abstracts International*, 1972, 33, 2316-B. (University Microfilms No. 72-29, 876)
- Daugherty, I. L. Measures of central tendency and variability on all the major scoring categories. In Edwin E. Wagner (Ed.), *The Hand Test*. Ohio: Mark James, 1962.
- De Kleen, T. *The ritual hand-poses of the Buddhist priests and the Shiva priests of Bali*. New York: Dutton, 1924.
- DeSouza, T. A. *Normative data of Indian population consisting of 3,000 subjects drawn on a proportionate basis from the census of India, 1961, communitywise, occupationwise and educationwise*. Unpublished doctoral dissertation. The University of Bombay, 1972.
- Drummond, F. A failure in the discrimination of aggressive behavior of undifferentiated schizophrenics with the Hand Test. *Journal of Projective Techniques & Personality Assessment*, 1966, 30, 275-279.
- Faidherbe, D. *The Hand Test: Contribution to its value in the psychiatric section*. Unpublished doctoral dissertation. Université de Lille, 1968.
- Fornari, U. "Passaggio all'atto", "collaborazione" e "competitività" studiati attraverso il test della mano in un gruppo di minori dissociati. *Annali Di Freniatria E Scienze Affini*, 1970, 83, 1-6. (a)
- Fornari, U. Primi risultati statistico-descrittivi ottenuti in un gruppo di minori dissociati studiati con il "test della mano." *Annali Di Freniatria E Scienze Affini*, 1970, 83, 1-6. (b)
- Fornari, U. Studio su alcune correlazioni tra il test di Rorschach e il test della mano somministrati ad un gruppo di minori dissociati. *Annali Di Freniatria E Scienze Affini*, 1970, 83, 1-7. (c)
- Fornari, U., & Gasca, G. Il test della mano studiato in un gruppo di schizofrenici cronici. *Annali Di Freniatria E Scienze Affini*, 1970, 83, 1-12. (a)
- Fornari, U., & Gasca, G. Uso clinico del test della mano. *Annali Di Freniatria E Scienze Affini*, 1970, 83, 1-41. (b)
- Gloss, G. Means on individual scoring categories for nine age groups of students selected randomly from the Tallmadge Ohio School District. In Edwin E. Wagner (Ed.), *The Hand Test*. Ohio: Mark James, 1962.
- Gotzger, A. *Untersuchung zur Validität des Hand Tests*. Unveroff. Zulassungsarbeit. University of Freiburg, 1965.
- Greene, R. S., Sawicki, R., & Wagner, E. E. Hand Test correlates for karate students: A preliminary interpretation based on structural analysis. *Perceptual and Motor Skills*, 1974, 38, 692-694.
- Gutierrez, J. L. A., & Sanchez, E. C. Valoración de la agresividad con el Hand Test. *Revista De Psicología General Y Aplicada*, 1970, 20, 535-541.
- Hammer, F. F. *The clinical application of projective drawings*. Springfield, Illinois: Charles C. Thomas, 1961.

- Hendon, J. F., & Brodsky, S. L. Validity of Hand Test acting-out ratio of and experimentally induced aggression. *Journal of Personality Assessment*, 1973, 37, 363-368.
- Hodge, J. R., & Wagner, E. E. The validity of hypnotically induced emotional states. *American Journal of Clinical Hypnosis*, 1964, 1, 37-41.
- Hodge, J. R., Wagner, E. E., & Schreiner, F. Hypnotic validation of two Hand Test scoring categories. *Journal of Projective Techniques & Personality Assessment*, 1966, 30, 385-386.
- Hollister, R. L. *Hand Test responses of second and fourth grade children*. Unpublished masters thesis, University of Akron, 1963.
- Hoover, T. O. *Rorschach Mas as a measure of behavioral tendencies: A validity-generalization*. Unpublished masters thesis, University of Akron, 1970.
- Hoover, T. O. *Relationships among Hand Test variables and behavioral types*. Unpublished doctoral dissertation, The University of Akron, 1976.
- Hagerman, J. A. A failure of the Wagner Hand Test to discriminate among workers rated high, average, and low on activity level and general acceptability. *Journal of Projective Techniques & Personality Assessment*, 1964, 28, 280-283.
- Kronenberger, H. R. *The use of the Hand Test with emotionally disturbed children*. Unpublished masters thesis, University of Akron, 1975.
- Levin, E. S., & Wagner, E. E. Personality patterns of deal persons: An interpretation based on research with the Hand Test. *Perceptual and Motor Skills*. Monography Supplement 4 V 39, 1974.
- Machover, K. *Personality projection in the drawing of the human figure*. Springfield, Illinois: Charles C. Thomas, 1961.
- Major, M. A. *Differentiation of neurotics and schizophrenics with the Hand Test*. Unpublished masters thesis, University of Akron, 1964.
- Medline, R. *An examination of the validity and reliability of selected Hand Test variables*. Unpublished masters thesis, The University of Akron, 1968.
- Minoura, M. *Hand Test*. *Japanese Journal of Clinical Psychology*, 1970, 9, 37-41.
- Norman, H. J. Natural hand language. In I. Bulwer (Ed.), *Proceedings of the Royal Society of Medicine*, London, 1943, 36.
- Oswald, O., & Loftus, P. T. A normative and comparative study of the Hand Test with normal and delinquent children. *Journal of Projective Techniques & Personality Assessment*, 1967, 31, 62-68.
- Piotrowski, Z. A. *Perceptanalysis*. New York: MacMillan, 1957.
- Pushoff, I. I. The development of norms for bilingual first, second, and third grade children's responses to the Hand Test and Peabody Picture Vocabulary Test. Doctoral dissertation, University of Oklahoma, 1972. Dissertation Abstracts International, 1972, 33, 27771-A (University Microfilms No. 72-19, 751).
- Rand, T. M., & Wagner, E. E. Correlations between Hand Test variables and patrolman performances. *Perceptual and Motor Skills*, 1973, 37 (2), 477-478.
- Roberts, B. B. Development of norms for mentally retarded and bright children on the Hand Test (Doctoral dissertation, University of Oklahoma, 1971). *Dissertation Abstracts International*, 1971, 32, 2516-A (University Microfilms No. 71-27, 641).
- Rogers III, T. H. *Prediction of recidivism among female runaways with the Hand Test*. Unpublished masters thesis, University of Akron, 1969.
- Sarbo, G. V. *Predicting aggressive behavior with the Hand Test: A validation and extension of a previous study*. Unpublished masters thesis, University of Akron, 1967.
- Scheimann, E. I. The comparison of the psychodiagnostic findings of graphology and hand psychology. *Journal of Nervous and Mental Disease*, 1948, 107, 269-275.
- Selg, H. Der Hand Test. Bericht über ein projektives Verfahren. *Diagnostica*, 1965a, 1, 134-137.
- Selg, H. Der Hand Test als Indikator für aggressives Verhalten bei Kindern. *Diagnostica*, 1965b, 4, 153-158.
- Selg, H. *Diagnostik der aggressivität*. Göttingen: Verlag fuer Psychologie, 1968.
- Shaw, D. J., & Linden, I. D. Accuracy of the Hand Test. *Educational and Psychological Measurement*, 1964, 2, 283-284.
- Singer, M. M., & Dawson, I. G. Experimental validation of the Hand Test. *Journal of Clinical Psychology*, 1969, 25, 204-205.
- Smart, F. H. *Discriminating between fighter and nonfighter pilots using the Hand Test*. Unpublished masters thesis, University of Akron, 1967.
- Stork, I. Review of *The Hand Test*. *Journal of Projective Techniques*, 1967, 31, 46-49.
- Sul van, H. S. *Conceptions of modern psychiatry*. Washington, D. C.: William Alanson White Psychiatric Foundation, 1947.
- Taylor, I. F. Group administration of the Hand Test. *British Journal of Projective Assessment*, 1969, 28, 95-98.
- Thompson, C. I. Evaluation of Rorschach scores by the Hand Test. *Perceptual and Motor Skills*, 1969, 28, 95-98.
- Vaels, R. F. Norms for children in lower grades. In Edwin E. Wagner, Jr., *The Hand Test*. O. Mark James, 1962.
- Wagner, E. E. The use of drawings of hands as a projective method for determining personality and schizophrenics. *Journal of Clinical Psychology*, 1961, 3, 279-280.
- Wagner, E. E. *Hand Test: Manual for administration, scoring, and interpretation*. Springfield: Charles C. Thomas, 1962. (a)
- Wagner, E. E. The use of drawing of hand as a projective method for determining personality and schizophrenics. *Journal of Clinical Psychology*, 1962, 2, 208-209 (b).



- Wagner, E. E. Hand Test indicators of overt psychosexual maladjustment in neurotic males. *Journal of Projective Techniques & Personality Assessment*, 1963, 27, 357-358.
- Wagner, E. E. The imaginary lovers delusion: A diagnostic case study. *Journal of Projective Techniques & Personality Assessment*, 1966, 30, 394-400.
- Wagner, E. E. *Hand Test: Manual for administration, scoring and interpretation*. Western Psychological Services: Los Angeles, 1969.
- Wagner, E. E. Results of psychological testing on a child with Gilles de la Tourette's Disease. *Journal of Clinical Psychology*, 1970, 26, 52-57.
- Wagner, E. E. Structural analysis: A theory of personality based on projective techniques. *Journal of Personality Assessment*, 1971, 35, 422-435.
- Wagner, E. E. Diagnosis of conversion hysteria: An interpretation based on structural analysis. *Journal of Personality Assessment*, 1973, 37, 5-15 (a).
- Wagner, E. E. Saying vs. doing: A criticism of the Hyden and Brodsky study of the Hand Test AOR. *Journal of Personality Assessment*, 1973, 37, 579 (b).
- Wagner, E. E. The nature of the psychopath: Interpretation of projective findings based on structural analysis. *Perceptual and Motor Skills*, 1974, 49, 855-854.
- Wagner, E. E. Clinical applications of the Hand Test. In B. B. Wolman (Ed.), *Clinical diagnosis of mental disorders: A handbook*. New York: Plenum, 1978.
- Wagner, E. E., & Capotosto, M. Discrimination of good and poor retarded workers with the Hand Test. *American Journal of Mental Deficiency*, 1964, 69, 126-128.
- Wagner, E. E., & Copper, I. Differentiation of satisfactory and unsatisfactory employees at Goodwin Industries with the Hand Test. *Journal of Projective Techniques & Personality Assessment*, 1963, 27, 353-356.
- Wagner, E. E., Darbes, A., & Lechowick, I. P. A validation study of the Hand Test pathology score. *Journal of Personality Assessment*, 1972, 36, 62-64.
- Wagner, E. E., & Hawkins, R. Differentiation of associative delinquents with the Hand Test. *Journal of Projective Techniques & Personality Assessment*, 1964, 28, 363-365.
- Wagner, E. E., & Hawver, E. A. Correlation between psychological tests and sheltered workshop performance for severely retarded. *American Journal of Mental Deficiency*, 1965, 68, 685-691.
- Wagner, E. E., & Hoover, T. O. Exhibitionism in drama majors: A validation. *Perceptual and Motor Skills*, 1971, 32, 125-126.
- Wagner, E. E., & Hoover, T. O. Behavioral indications of Rorschach's human movement response: Further validation based on exhibitionistic Ms. *Perceptual and Motor Skills*, 1973, 35, 27-30.
- Wagner, E. E., & Medvedeff, E. Differentiation of aggressive behavior of institutionalized schizophrenics with the Hand Test. *Journal of Projective Techniques*, 1963, 1, 111-113.
- Weltzien, J. M. *Hand Test patterns of three groups of alcoholics*. Unpublished masters thesis, University of Akron, 1964.
- Wetsel, H., Shapiro, R. J., & Wagner, E. E. Prediction of recidivism among juvenile delinquents with the Hand Test. *Journal of Projective Techniques*, 1967, 31, 69-72.
- Wherry, R. J. A new formula for predicting shrinkage of the coefficient of multiple correlation. *Annals of Mathematical Statistics*, 1950, 12, 440-457.
- Wolff, C. Character and mentality as revealed by hand marking. *British Journal of Medical Psychology*, 1941, 18, 364-382.
- Wolff, C. *A psychology of gesture*. London: Methuen, 1945.
- Wolff, C. *The hand in psychological diagnosis*. London: Methuen, 1951.
- Zucker, K. B., & Jordan, D. The paired hands test: A technique for measuring friendliness. *Journal of Projective Techniques & Personality Assessment*, 1968, 32, 522-529.

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## Differences in Hand Test Responses of Healthy Females Across the Life-Span

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**Summary**—The Hand Test was administered to 175 females ranging in age from 17 to 72 years. Subjects were all "community-living," within normal range of hearing and vision, in good health, and had a modal education level of high school graduate. Results were consistent with previous findings using projective techniques with the elderly, in that a depletion and constriction of personality appears to be concomitant with the normal aging process.

Projective test protocols of the elderly have conveyed the impression of a general personality deterioration with age (PANEK, STERN, & WAGNER, 1976). These findings have been obtained with a number of projective tests, Rorschach (AMES, 1960a, 1960b; AMES, METRAUX, RODELL, & WALKER, 1973; EISDORFER, 1960a, 1960b; KLOPFER, 1946), Thematic Apperception Test (CHOWN, 1968; ROSEN & NEUGARTEN, 1960; VEROFF, ATKINSON, FELD, & GURIN, 1960); and the Draw-A-Person (GILBERT & HALL, 1962; LAKIN, 1956; LORGE, TUCHMAN, & DUNN, 1954).

Recently, in the literature, there has been some question concerning the validity of standard projective techniques for the assessment of older adults. In addition, the interpretation of past research findings, as manifesting personality deterioration, has been challenged. First, as researchers such as BELLAK and BELLAK (1973), WOLK (1972), WOLK, RUSTIN, and SEIDEN (1966), and WOLK and WOLK (1971) point out, standard projective tests have been validated on young subject populations and therefore, may not be valid for the assessment of the older adult. These investigators suggest new projectives should be developed which present stimuli that are specifically relevant to the older adult.

Though the "Senior Apperception Technique" (BELLAK & BELLAK, 1973) and the "Gerontological Apperception Test" (WOLK & WOLK, 1971) were developed to be specifically valid for older adults, the literature has not been supportive. Research conducted by FITZGERALD, PASEWARK, & FLEISHER (1974) and PASEWARK,

FITZGERALD, DEXTER, & CANGEMI (1976) has demonstrated the Gerontological Apperception Test was not superior to the Thematic Apperception Test in eliciting themes reflecting the problems of the aged for which the test was designed. In addition, though these specifically designed projective instruments present stimuli that may be relevant to older adults, they are not relevant for young individuals, and therefore comparisons of responses between old persons and young persons to the test would not be possible.

The second major criticism that has been made concerning the research in this area pertains to the sensory integrity and intellectual level of the individuals used in the previous research. CHOWN (1968) and EISDORFER (1960a, 1960b, 1963) suggest the responses of older adults to projective test stimuli may reflect such things as cognitive and/or motor deterioration, poor vision and/or hearing and intellectual decline or differences in educational level between the subjects rather than personality deterioration. This criticism may be valid since the majority of studies investigating the projective test responses of the elderly have used institutionalized subjects, and tests which require extensive motor control (e.g., Bender-Gestalt, Draw-a-Person). Additionally, projectives such as the Thematic Apperception Test require lengthy verbalization and time for administration, therefore, the older adult's protocols may reflect fatigue and/or poor verbal ability, rather than personality deterioration.

Finally, as reported by Klopfer (1974), most studies of older adult personalities using projective techniques have been limited to a cross-sectional design. This methodology confounds age and generation effects; resulting in life-span changes that are subsequently unexplainable (Baltes, 1968; Schaie, 1965).

An exploratory investigation by Panek et al. (1976), using the Hand Test, attempted to overcome some of the noted deficiencies in the previous research inasmuch as the Hand Test requires no motor control, administration time is short, and high verbalization is not required. This study used a matched-pair design, which allowed for partial control of factors such as cultural influences and intellectual differences between the groups (Botwinick, 1967), and all subjects were "community-living" (i.e., noninstitutionalized). The results were consistent with past findings using projective techniques inasmuch as depletion and constriction of personality were noted, but this study still could be criticized because of small sample size and the absence of measures of the subject's health status.

Therefore, the purpose of the present study was to investigate age differences in Hand Test responses of females across the life-span, who were noninstitutionalized, in good health and with normal hearing and vision, in order to determine whether similar personality deterioration would be observed as has been reported previously using other projective techniques.

### Method

#### Subjects

Subjects were 175 community-living female volunteers from a large midwestern urban area, ranging in age from 17 to 72 years. Subjects were assigned into one of seven age groups of 25 subjects each on the basis of their chronological age as follows: *Group 1*, age 17-24 years ( $M = 21.20$ ,  $SD = 1.74$ ); *Group 2*, age 25-32 years ( $M = 27.12$ ,  $SD = 1.92$ ); *Group 3*, age 33-40 years ( $M = 35.32$ ,  $SD = 2.17$ ); *Group 4*, age 41-48 years ( $M = 44.04$ ,  $SD = 2.88$ ); *Group 5*, age 49-56 years ( $M = 52.24$ ,  $SD = 2.42$ ); *Group 6*, age 57-64 years ( $M = 59.76$ ,  $SD = 2.13$ ); *Group 7*,

age 65-72 years ( $M = 68.24$ ,  $SD = 2.57$ ).

The mode for educational level within each age group was high school graduate. Subjects were each given a health questionnaire adapted from Shanas (1962). The responses to the questionnaire indicated that all subjects were in good excellent health. In addition, each subject had her hearing and vision examined prior to participation. Hearing was assessed through an air and bone conduction test using a Beltone 10 D audiometer; vision was assessed with a Bausch and Lomb Ortho-Rater. All subjects included in the analysis of the present investigation were within the normal range of hearing and vision.<sup>1</sup>

### Procedure

Each subject was individually given the Hand Test (Wagner, 1962) according to standard instructions by one of the authors (PEP). All test protocols were scored "blind" by another author (EEW).

### Results

Of the 26 Hand Test variables investigated, 12 were found to differ significantly among the groups using the Kruskal-Wallis Test. Significant differences among the age groups were found for the Hand Test variables of Dependence ( $H = 15.78$ ,  $p < .02$ ), Communication ( $H = 17.12$ ,  $p < .01$ ), Exhibition ( $H = 14.10$ ,  $p < .03$ ), Direction ( $H = 17.86$ ,  $p < .01$ ), Acquisition ( $H = 16.09$ ,  $p < .01$ ), Maladjustive ( $H = 11.69$ ,  $p < .07$ ), Withdrawal ( $H = 11.40$ ,  $p < .08$ ), Average Initial Reaction Time ( $H = 21.77$ ,  $p < .001$ ), High Minus Low ( $H = 12.36$ ,  $p < .06$ ), Pathology ( $H = 13.29$ ,  $p < .04$ ), Repetitions ( $H = 10.75$ ,  $p < .10$ ), and Emulations ( $H = 30.89$ ,  $p < .001$ ).

### Discussion

Although the women used in the present study all had normal hearing and vision, were primarily high school graduates and were active and outgoing, the results confirm patterns of aging found in the previous research. That is, the aging individual can be pictured as one whose reality contact has begun to recede

<sup>1</sup> This data can be obtained from the author upon request.

(Pathology), and who tends to withdraw from meaningful interaction with life (Withdrawal). The aging individual appears to manifest delays in coping quickly with important life situations (Average Initial Reaction Time, High Minus Low), and exhibits less willingness to exert herself in order to attain important goals (Acquisition) or to assert herself in normal life situations (Direction, Exhibition). In addition, the aging individual displays an increasing need for others (Dependence, Communication, Interpersonal), while their mode of responding has become stereotyped and rigid (Repetitions, Emulations).

Interestingly, the findings of the present investigation are somewhat different than those findings previously reported (Panek et al., 1976). In the present investigation, the older adults gave more overall responses, manifested increased communication, and exhibited more interpersonal responses with age, which was not found in the previous investigation. This might be expected though, since by preselection, all subjects used in the present investigation were active, outgoing individuals.

It is important to note that, though individuals in the present investigation were all in good health, and had normal vision and hearing, the responses of the older adults still suggested personality deterioration. The results of the present investigation may be in part due to cohort and experience differences between the groups and the authors hope to retest these same individuals in the future in order to control for these factors.

Overall, the results demonstrate that the Hand Test is an effective projective instrument with which to investigate the personality of the older adult and also suggest that, even when various contaminating factors are controlled, personality depletion tends to increase with aging, although the nature of this depletion will vary somewhat with social habits and perceptual-motor integrity. In addition, though the nature of these variables do seem to imply deterioration, it is still possible that our criterion as to what is deterioration may not apply to older adults. This fact should be kept in mind when in-

terpreting the projective test responses of the older adult.

### References

- Ames, L. B. Age changes in the Rorschach responses of a group of elderly individuals. *Journal of Genetic Psychology*, 1960, 97, 257-258. (a)
- Ames, L. B. Age changes in the Rorschach responses of individual elderly subjects. *Journal of Genetic Psychology*, 1960, 97, 287-315. (b)
- Ames, L. B., Metraux, R. W., Rodell, J. L. & Walker, R. N. *Rorschach responses in old age*. New York: Brunner/Mazel, 1973.
- Baltes, P. B. Longitudinal and cross-sectional sequences in the study of age and generation effects. *Human Development*, 1968, 11, 145-171.
- Bellak, L., & Bellak, S. S. *Manual for the Senior Apperception Technique*. New York: C.P.S., 1973.
- Botwinick, J. *Cognitive processes in maturity and old age*. New York: Springer, 1967.
- Chown, S. M. Personality and aging. In K. W. Schaie (Ed.), *Theory and method of research on aging*. Morgantown, W. Va.: West Virginia University, 1968.
- Eisdorfer, C. Developmental level and sensory impairment in the aged. *Journal of Projective Techniques*, 1960, 24, 129-132. (a)
- Eisdorfer, C. Rorschach rigidity and sensory decrement in a senescent population. *Journal of Gerontology*, 1960, 15, 188-190. (b)
- Eisdorfer, C. Rorschach performance and intellectual functioning in the aged. *Journal of Gerontology*, 1963, 18, 358-363.
- Fitzgerald, B. J., Pasewark, R. A., & Fleisher, S. Responses of an aged population on the Gerontological and Thematic Apperception Tests. *Journal of Personality Assessment*, 1974, 38, 234-235.
- Gilbert, J. G., & Hall, M. R. Changes in age in human figure drawing. *Journal of Gerontology*, 1962, 17, 397-404.
- Klopfer, W. G. Personality patterns of old age. *Rorschach Research Exchange*, 1946, 10, 145-166.
- Klopfer, W. G. The Rorschach and old age. *Journal of Personality Assessment*, 1974, 38, 420-422.
- Lakin, M. Certain formal characteristics of human figure drawings by institutionalized aged and by normal children. *Journal of Consulting Psychology*, 1956, 20, 471-474.
- Lorge, I., Tuchman, J., & Dunn, M. B. Human figure drawing by younger and older adults. *American Psychologist*, 1954, 9, 420-421.
- Panek, P. E., Sterns, H. L., & Wagner, E. E. An exploratory investigation of the personality correlates of aging using the Hand Test. *Perceptual and Motor Skills*, 1976, 43, 331-336.
- Pasewark, R. A., Fitzgerald, B. J., Dexter, V., & Cangemi, A. Responses of adolescent, middle-aged, and aged females on the Gerontological and Thematic Apperception Tests. *Journal of Personality Assessment*, 1976, 40, 588-591.



Rosen, J. I., & Neugarten, B. L. Ego functions in the middle and later years. A thematic apperception study of normal adults. *Journal of Gerontology*, 1960, 15, 62-67.

Schae, K. W. A general model for the study of developmental problems. *Psychological Bulletin*, 1965, 64, 92-107.

Shanas, E. *The health of older people: A social survey*. Cambridge, Mass.: Harvard University Press, 1962.

Veroff, J., Atkinson, J. W., Feld, S. C., & Gurin, G. The use of thematic apperception to assess motivation in a nationwide interview study. *Psychological Monographs*, 1960, 74, No. 12 (Whole No. 499).

Wagner, I. I. *The Hand Test: Manual for administration, scoring and interpretation*. Los Angeles: Western Psychological Services, 1962.

Wolk, R. I. Refined projective techniques with the aged. In D. P. Kent, R. Kastenbaum, & S. Sherwood (Eds.), *Research, planning and action for the elderly: The power and potential of social science*. New York: Behavioral Publications, 1972.

## *Hand Test Norms for Healthy Females*

Wolk, R. I., Rustin, S. L., & Seiden, R. A. A modified projective technique for the aged: The Gerontological Apperception Test. *Journal of the Long Island Consultation Center*, 1966, 4, 8-21.

Wolk, R. I., & Wolk, R. B. *The Gerontological Apperception Test*. New York: Behavioral Publications, 1971.

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## The Validity of MMPI Interpretations Based on the Minimult and the FAM

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**Summary.** In this study 29 clinicians provided *Q*-sort descriptions for 36 patients' MMPI profiles prepared in the standard way or prepared according to Kincannon's (1968) Minimult or Fashingbauer's (1974) FAM. For each patient, correlations between *Q*-sorts based on the standard profile and each short form profile were computed as a measure of interpretive similarity between the long form and short form. Correlations between *Q*-sorts by independent raters both interpreting the long form profile served as the standard for comparison. Data analyses revealed that, at least for the FAM, interpretive similarity between the short form and long form MMPI may be sufficient to warrant its clinical use for individual profile interpretation.

The MMPI is one of the most popular and widely used tests available to psychodiagnosticians in clinical psychology today. Because of the length of time required to complete the full MMPI, a number of abbreviated forms potentially more efficient for clinical use have been developed (e.g., Fashingbauer, 1974; Kincannon, 1968; Overall & Gomez-Mont, 1974). In spite of extensive attempts to validate the various short forms for clinical use, the consensus of the literature is that data generated by the abbreviated forms are not sufficient to allow the clinician to make individual profile interpretations and diagnostic decisions and judgments with the accuracy which the full MMPI permits.

Most of the validity studies to date have attempted to draw inferences about the clinical utility of the short forms from an analysis of the statistical concordance between the short forms and the long form. In many studies the statistical parameter examined has been correlations between long and short form scale scores, though such correlations are only indirectly related to the issue of individual profile interpretation. (For a good summary of investigations utilizing this measure, see Fashingbauer, 1976). In other studies the statistical concordance between short and long forms in producing code types has been examined (e.g., Hoffman & Butcher, 1975). For Fashingbauer's (1974) FAM and Kincannon's (1968) Minimult, Hoffman and Butcher found that the concordance rates for 2-point

code types with the full MMPI were 40.4% and 36.7% respectively, and they concluded that "...there is insufficient evidence to advocate clinical use of the MMPI short forms. It seems that with such low classification accuracy in the short forms they would not simply plug into the existing interpretations and uses of the standard form without some modification and caution" (p. 38).

This conclusion, based on their data, suffers from three shortcomings. First of all, discordance of code type does not necessarily mean discordance of interpretation. One popular MMPI handbook (Gilberstadt & Duker, 1965) lists anxiety neurosis as an appropriate diagnosis for code types 1-3-9, 2-7, or 4, no two of which share even a single peak. Secondly, most investigators of code type concordance have concluded that the values they obtained were unacceptably low. However, if the code type concordance rate for test-retest studies of the full MMPI is utilized as the criterion, values such as those obtained by Hoffman and Butcher appear to be much more acceptable. For example, Fashingbauer (1974) found that for 61 subjects who took the full MMPI twice with only a one day interval, the same 2-point code type was obtained in only 41% of cases. This suggests that the degree of slippage between long and short forms may not be markedly greater than the slippage between two long forms administered in close succession. Finally, the conclusion of Hoffman and Butcher and others is based on only an intermediate step in clinical interpretation. The final step, the clinician's pro-

tile interpretation, can be observed and measured directly, thus these investigators have made inferences where empirical investigation was called for.

Only two recent studies have investigated clinical interpretations based on long and short form MMPIs with regard to their relative adequacy as complex portrayals of individual patients (Newmark, Conger, & Faschingbauer, 1976; Newmark, Park, & Finch, 1976). In these studies Newmark served as a blind interpreter of both long and short form MMPI profiles, and his interpretive profiles were evaluated by psychiatric residents familiar with the patients. In these studies, the FAM and the MMPI 168 (Overall & Cline, 1974) compared favorably with the full MMPI, suggesting that these short forms may be appropriate substitutes for the full MMPI in some circumstances.

While the studies by Newmark and his associates directly assess the validity of short form profile interpretation, an improvement over previous methodology, they share the weakness that Newmark was the only clinical rater involved. Thus it could be Newmark's clinical acuity, rather than simply good short-form validity, that accounted for his positive findings. The present study assessed the validity of short form interpretations relative to those based on the long form, with interpretations provided by a sample of 29 experienced clinicians. The two short forms investigated were the Minn-sult and the FAM, and the clinicians provided interpretations in the form of Q sorts.

### Method

#### Profiles

MMPI response sheets representing a wide range of psychopathology were anonymous, drawn from clinical files at a state hospital ( $n = 12$ ) and the mental health unit of a university student health center ( $n = 24$ ). Three profiles were prepared on the basis of each response sheet: one based on the MMPI long form, one using the FAM scales and norms, and one using the Minn-sult scales and norms.

#### Raters

The psychologists who served as Q sort profile raters consisted primarily of

(a) acquaintances of the authors, who were believed to have some experience with MMPI interpretation, and/or (b) persons who are visible in the published MMPI literature. Most who were asked to serve as raters agreed to. The entire sample included 27 PhD and 2 PsyD clinical psychologists.

#### Procedure

For any given patient, four psychologists were randomly selected from a pool of 29 to give Q sort ratings of the patient's profiles. These four raters, arbitrarily designated as Raters A, B, C, and D, were given profiles as follows:

Raters A & B	Rater C	Rater D
Full MMPI profile	FAM profile	Minn-sult profile

Each profile was labeled with regard to what kind of a profile it was (i.e., MMPI, Minn-sult, FAM); the sex and age of the patient were also noted. The rater received 30 slips of paper; on each was printed one of 30 descriptive statements. These statements were drawn from Minn-sult and Seeman's (1963, pp. 302-303) Q-sort list; an attempt was made to include 30 descriptive of all the major kinds of psychopathology. The rater was asked to sort the 30 statements into six piles of five statements each, ranging from "very much descriptive of this patient" to "not at all descriptive..."—based on the profile given to him. Q sorts were recorded on a response sheet provided by the authors. A total of 144 profiles (12 patients  $\times$  4 profiles each) were rated by the 29 psychologists, each psychologist received at least one FAM profile, one Minn-sult profile, and two full MMPI profiles.

#### Data Reduction

The Q sort data were quantified by assigning numerical scores to the statements in each of the six piles. Q sort statements deemed "very much descriptive" were assigned a score of one, those in the next pile a score of two, and those deemed "not at all descriptive" a score of six. The index of similarity between profile interpretations was the Pearson product moment correlation applied to these scores. This index addresses the question to what extent do statements rated as highly descriptive by one rater tend to be rated as





Table 1  
Summary of Correlation Distributions: Frequencies at Various Ranges

	$\leq .00$	$> .00$ $\leq .10$	$> .10$ $\leq .20$	$> .20$ $\leq .30$	$> .30$ $\leq .40$	$> .40$ $\leq .50$	$> .50$ $\leq .60$	$> .60$ $\leq .70$	$> .70$	Range	Mdn	Arith. Mean
Between $Q$ sorts on different patients ( $^1L1$ frandom)	14	3	3	5	4	3	1	0	3	-.46 to .79	.18	.14
Between the Minimult $Q$ sort and one long form $Q$ sort, same patient ( $^1LfaK$ )	5	2	6	3	3	7	7	2	1	-.35 to .74	.35	.31
Between the Minimult $Q$ sort and the other long form $Q$ sort, same patient ( $^1LfbK$ )	6	0	5	4	4	3	6	4	4	-.46 to .74	.34	.34
Between the FAM $Q$ sort and one long form $Q$ sort, same patient ( $^1LfaF$ )	3	1	6	1	6	4	5	7	3	-.26 to .77	.45	.40
Between the FAM $Q$ sort and the other long form $Q$ sort, same patient ( $^1LfbF$ )	3	2	4	1	3	6	7	4	6	-.31 to .83	.50	.42
Between the two $Q$ sorts on the identical long form profile ( $^1LfaLfb$ )	3	1	1	3	2	6	6	13	1	-.35 to .83	.58	.45

Note: For each distribution,  $n = 36$  — one correlation for each combination of

noted above, MMPI long form profiles based on closely-spaced testings are not identical. Accordingly, since our rLfaLfb correlations were based on independent ratings of exactly the same profile, they may well *overestimate* the reliability of interpretations based on the long form. Moreover, the use of a "blind" interpretation of a long form as the criterion in the present validity study may have given the long form a spurious advantage over the short forms. Clearly, a more appropriate criterion would be a *Q* sort based on an indepth clinical investigation of the patient whose profiles were utilized. It is entirely possible that some of the *Q* sorts based on short forms would correlate with such a criterion better than those based on the long form.

Given the biases inherent in the present study *against* the short forms, the authors judge that the results obtained for the FAM are indeed impressive, and suggest that the FAM may be an acceptable substitute for the full MMPI for clinical purposes.

### Results for the Minimult

Mann-Whitney *U* tests revealed that both long form-short form distributions involving the Minimult, rLfaK and rLfbK, were significantly lower than the rLfaLfb distribution ( $z = 2.13, p < .05$ ;  $z = 2.61, p < .01$ ). This indicates that the profiles generated by the Minimult are substantially different from long form profiles, in ways that are germane to clinical interpretation. Comparisons of long form-long form correlations with long form-Minimult coefficients on an individual patient basis were also unimpressive; in 64% of comparisons (46 of 72) the rLfaLfb coefficient exceeded the rLfbK coefficient, indicating a clear superiority of the long form-long form interpretation on an individual case basis. Based on these findings, the authors are reluctant to recommend use of the Minimult for clinical purposes and advise the clinician to seek another short form (e.g., the FAM) whose interpretive similarity to the MMPI is more substantial when the use of the full MMPI is prohibited.

### Conclusions

The present study extended the pre-

vious efforts of Newmark et al. (1976) who were among the first investigators to directly assess the interpretive validity of MMPI short forms. The findings support the implications of Newmark, Conger, and Faschingbauer (1976) and suggest that interpretations based on FAM profiles are sufficiently similar to those based on the long form MMPI profile to recommend the FAM for clinical use. However, the findings regarding the validity of interpretations based on Minimult profiles were negative and suggest that the Minimult should not be considered an acceptable substitute for the full MMPI for purposes of clinical interpretation.

### References

- Faschingbauer, T. R. A 166-item short form of the group MMPI: The FAM. *Journal of Consulting and Clinical Psychology*, 1974, 42, 645-655.
- Faschingbauer, T. R. Some clinical considerations in selecting a short form of the MMPI. *Professional Psychology*, 1976, 7, 167-176.
- Gilberstadt, H., & Duker, J. *A handbook for clinical and actuarial MMPI interpretation*. Philadelphia: Saunders, 1965.
- Guilford, J. P., & Fruchter, B. *Fundamental statistics in psychology and education*. New York: McGraw-Hill, 1973.
- Hoffman, N. G., & Butcher, J. N. Clinical limitations of three Minnesota Multiphasic Personality short forms. *Journal of Consulting and Clinical Psychology*, 1975, 43, 32-39.
- Kincannon, J. Prediction of the standard MMPI scale scores from 71 items: The Minimult. *Journal of Consulting and Clinical Psychology*, 1968, 32, 319-325.
- Marks, P. A., & Seeman, W. *Actuarial description of abnormal personality*. Baltimore: Williams & Wilkins, 1963.
- Newmark, C. S., Conger, A. J., & Faschingbauer, T. R. The interpretive validity and effective test length functioning of an abbreviated MMPI relative to the standard MMPI. *Journal of Clinical Psychology*, 1976, 32, 27-32.
- Newmark, C. S., Falk, R., & Finch, A. J. Interpretive accuracy of abbreviated MMPis. *Journal of Personality Assessment*, 1976, 40, 266-268.
- Overall, J. E., & Gomez-Mont, F. The MMPI-168 for psychiatric screening. *Educational and Psychological Measurement*, 1974, 34, 315-319.

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## MMPI Scale Development Methodology

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**Summary:** A multitude of special MMPI scales have been developed without sufficient consideration for the methodology of empirical scale construction. Suggestions are presented in this article regarding the selection of items for a new MMPI scale and the tasks needed for the evaluation of a new scale. An investigator who develops a new MMPI scale should consider (a) the need for *K* corrections of scale scores, and (b) the possibility that the information provided by the special scale can also be obtained from the standard MMPI scales

The Minnesota Multiphasic Personality Inventory (MMPI) originally included three validity scales, which assess test-taking attitudes, and 10 clinical scales, which identify common patterns of psychopathology. In addition to these 13 standard scales, more than 400 special MMPI scales have been developed by various researchers (Duckworth & Duckworth, 1975). Some special scales have been constructed to measure common personality dimensions such as dominance and dependency. Other special scales have been developed to detect types of psychopathology, such as alcoholism, which are not assessed directly by the standard MMPI clinical scales. Many of the special MMPI scales are too limited or specialized for widespread use, but some special scales, such as the Ego-strength Scale (Barron, 1953), are in common use.

The method of empirical scale construction has been used in the development of most special MMPI scales. Using this method, the MMPI responses of two distinct groups (criterion and comparison) are contrasted to insure that scale items are selected which are empirically related to the characteristic being assessed. Special MMPI scale development has been characterized by insufficient attention to procedures and decisions involved in using the method of empirical scale development. Therefore, the purposes of this article are (a) to outline the necessary steps for the empirical development of a special MMPI scale, and (b) to discuss two issues relevant to MMPI special scale development that have been generally ig-

nored in the past. Some of the methodological suggestions presented in this article will be applicable to any study in which an item analysis of a personality inventory is performed.

### *Empirical Construction of Special MMPI Scales*

To develop a new MMPI scale, an item analysis is performed comparing the response frequencies (number of "True" answers and number of "False" answers) of a criterion group with the response frequencies of a suitable comparison group. For example, an MMPI scale to predict suicide attempts among psychiatric inpatients could be developed by comparing the MMPI responses of patients who had attempted suicide (criterion group) with the MMPI response of nonsuicidal patients (comparison group). A  $2 \times 2$  contingency table is set up for each of the 566 MMPI items, and a test of statistical association is used to determine whether the response frequencies of the criterion and comparison groups differ significantly. Either the chi-square test or Fisher's exact probability test may be used, depending on the size of the expected cell frequencies in each contingency table. The expected frequency in each of the four cells of a contingency table must be at least five (Wike, 1971) in order to use the chi-square test. This requirement will not be met for some MMPI items even with a large number of subjects. For example, an MMPI item such as "Evil spirits possess me at times," will rarely be endorsed by persons in any group. For such an item the two cells in the contingency table representing "True" responses may have expected cell fre-

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quencies less than five, even when a large number of persons responds to the item. Fisher's exact probability test should be used when at least one expected cell frequency in the contingency table for an item is less than five. If only a few MMPI items are of interest and Fisher's exact test is to be used to evaluate them, then the extensive tables which exist for Fisher's exact test (e.g. Pearson & Hartley, 1964) should be consulted. Neither the chi-square test nor Fisher's exact test is appropriate when subjects in the criterion group are matched with those in the comparison group. When the two groups consist of pairs of subjects and the members of each pair have been selected because they are alike in terms of some matching variable (age, educational level, etc.), then McNemar's test for correlated proportions (Siegel, 1956) should be used.

Whenever a large number of statistical comparisons is made, the probability is increased that "significant" findings will be obtained which are due entirely to chance fluctuations. Therefore, after an MMPI item analysis has been performed, the investigator must decide whether the number of items which significantly differentiated between the criterion and comparison groups exceeds the number of items which could have reached significance purely by chance. A common solution to this problem has been to multiply the total number of items which were analyzed by the level of statistical significance used for the test of association. Thus, if the 566 MMPI items were analyzed using the .05 level of significance, then this solution would suggest that approximately 28 items could reach significance by chance. A related solution is to use the binomial expansion to calculate the probability of any given number of items reaching significance by chance. Both of these solutions are appropriate, however, only when the items are independent, and MMPI items are correlated. The covariation of MMPI items can potentially either increase or decrease the number of items to be expected to reach significance by chance. Because of MMPI item intercorrelations, and because sample size can affect the number of items found to be significant in an item analy-

sis, two other procedures have been suggested. Block (1960) proposed an empirical solution to the problem of how many significant items are expected by chance. He suggested that samples of the same size as the criterion and comparison groups be selected on a purely random basis from the combined criterion and comparison groups and that an item analysis be performed with these two random samples. If random samples are repeatedly selected and analyzed, a sampling distribution of items significant by chance alone can be obtained. This sampling distribution will be appropriate for the sample size and for the pattern of MMPI item intercorrelations in the particular set of data being considered. Another solution to the problem of items reaching significance by chance is to insure that items selected for the new scale can reliably differentiate the criterion and comparison groups. This can be accomplished by dividing both groups in half and doing two separate item analyses. An item would become a member of the new scale only if it significantly differentiated between the criterion and comparison groups in both item analyses. The probability of an item reaching statistical significance by chance alone in the two independent analyses would be quite low.

After the MMPI items to be included in the new scale and the direction of scoring for each item (the response more frequent in the criterion group than in the comparison group) have been determined, several additional tasks are performed to evaluate the new MMPI scale. The MMPI records of all criterion and comparison subjects are scored on the new scale. Using these scale scores, the difference between the mean scores of the criterion and comparison groups is tested with a *t* test. For new scales that will be used to classify subjects into dichotomous groups (e.g. likely or not likely to attempt suicide), it is important to derive a single scale score to use as a cutting point at or above which subjects are said to exhibit the trait or behavior pattern of the criterion group. The percentage of correct classifications with various possible cutting scores provides information about the new scale's ability to differentiate between



criterion and comparison subjects. It is preferable to demonstrate this differentiation with criterion and comparison subjects other than those used to develop the scale.

A table for the conversion of raw scale scores to *T* scores is commonly derived from the distribution of raw scale scores in the comparison group. Most of the criticisms of the *T*-score format of the original MMPI scales (Rodgers, 1972) apply equally well when *T* scores are provided for special MMPI scales. Essentially, the *T*-score format is not consistent with the method of empirical scale development. Empirical scale development most often focuses on the dichotomous discrimination of a criterion group from a comparison group. A cutting score is important for this dichotomous discrimination, not a scaled distribution. Also, as a consequence of the empirical scale development, most MMPI scales are multidimensional. While such multidimensionality can add to the power of dichotomous discriminations, it cannot be linearly scaled in a meaningful way, especially when the standard deviation unit for the scaling is derived from the comparison group which is usually designed to lack the characteristic being assessed by the special scale.

### *Issues in New MMPI Scale Development*

The *K* scale of the MMPI was developed to correct MMPI clinical scale scores for the influence of defensive test-taking attitudes. Five of the original 10 clinical scales of the MMPI were found to make a better differentiation between criterion and comparison groups when *K*-scale corrections were added to the clinical scale scores (McKinley, Hathaway, & Meehl, 1956). The possibility that *K*-scale corrections would improve the differentiation of criterion and comparison groups has been ignored in the development of special MMPI scales. Caldwell (Note 1) reported that *K*-scale corrections were essential with several special scales he used, in order for them to furnish information not available from the standard scales. However, Caldwell's 1970 data have not been published, and

no one else has examined the need for *K* corrections of special MMPI scale scores. To evaluate the need for *K*-scale corrections, an investigator could use a trial-and-error method of adding a fractional value (.1, .2, .3, etc.) of each subject's *K* scale score to his special scale score, and then examining for each fractional value the overlap in the distribution obtained for criterion and comparison subjects.

Despite the attractiveness of developing new MMPI scales for specialized tasks and the popularity of some of the special MMPI scales, there is a serious question regarding the possible redundancy or superfluity of special MMPI scales. The proliferation of special MMPI scales is certainly questionable if the information they provide can be readily obtained from standard MMPI scales. Manning (1971) hypothesized that if the standard MMPI scales are skillfully interpreted, they are able to provide as much information unaided, as with the additional use of any special MMPI scales. Caldwell (Note 1) found that he could predict the scale scores of many specialized MMPI scales so well from the scores of the 13 standard MMPI scales that the specialized scales did not appear to provide any information beyond what could be provided by the standard scales. Here again, Caldwell's 1970 data have not been published, and other data regarding the possible redundancy of special MMPI scales are lacking. When developing a special MMPI scale, an investigator should routinely determine how well the standard MMPI scales can differentiate criterion and comparison subjects. Specifically, multivariate procedures can be used to assess whether some combination of standard scales can significantly differentiate the two groups of subjects. A special MMPI scale may be advisable if the combination of standard scales which provides the same degree of differentiation of criterion and comparison subjects is unduly complex and requires much detailed computation.

### *Summary and Conclusions*

More than 400 special MMPI scales have been developed, most using the method of empirical scale construction

To develop a new MMPI scale an item analysis is performed to find MMPI items which differentiate between criterion and comparison subjects. In this item analysis, the chi-square test can be used for many items, but Fisher's exact probability test must be used when one or more of the expected cell frequencies in the contingency table for an item is less than five. To decide whether the number of items which significantly differentiate criterion and comparison groups exceeds the number of items which could reach significance by chance, an investigator should employ one of two procedures. The number of items likely to be found significant by chance can be determined empirically. Alternatively, criterion and comparison groups can be divided in half, and items can be selected for the new scales only if they significantly differentiate the groups in two independent item analyses. If a special scale is to be used to classify subjects into dichotomous groups, then information should be presented about the percentage of correct classifications achieved with the optimal cutting score. A *T*-score conversion table is of questionable value when a special scale is to be used for dichotomous classification. However, when a special scale is designed to assess a personality dimension, such as dependency, then a *T*-score format, but not a cutting score, would seem advisable. Finally, an investigator who develops a new MMPI scale should routinely consider the need for *K* corrections of scale scores and the possibility that the information provided by the special scale can also be obtained from the standard MMPI scales.

## Reference Note

1. Caldwell, A. B. *Recent advances in automated interpretation of the MMPI*. Paper presented at the Fifth Annual Symposium on Recent Developments in the Use of the MMPI, Mexico City, February 1970.

## References

- Barron, F. An ego-strength scale which predicts response to psychotherapy. *Journal of Consulting Psychology*, 1953, 17, 327-333.
- Block, J. On the number of significant findings to be expected by chance. *Psychometrika*, 1960, 25, 369-380.
- Duckworth, J. C., & Duckworth, E. *MMPI interpretation manual for counselors and clinicians*. Muncie, Indiana: Accelerated Development Inc., 1975.
- Manning, H. M. Programmed interpretation of the MMPI. *Journal of Personality Assessment*, 1971, 35, 162-176.
- McKinley, J. C., Hathaway, S. R., & Meehl, P. E. The *K* scale. In G. S. Welsh & W. G. Dahlstrom (Eds.), *Basic readings on the MMPI in psychology and medicine*. Minneapolis: University of Minnesota Press, 1956.
- Pearson, E. S., & Hartley, H. O. (Eds.) *Biometrika tables for statisticians* (Vol. 1). London: Cambridge University Press, 1964.
- Rodgers, D. A. Review of the MMPI. In O. K. Buros (Ed.), *The seventh mental measurements yearbook* (Vol. 1). Highland Park, New Jersey: Gryphon Press, 1972.
- Siegel, S. *Nonparametric statistics for the behavioral sciences*. New York: McGraw-Hill, 1956.
- Wike, I. L. *Data analysis: A statistical primer for psychology students*. New York: Aldine-Atherton, 1971.

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## Personality Organization as an Aspect of Back Pain in a Medical Setting

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**Summary**—The MMPI profiles of 74 low back pain patients who had previously been classified as "functional," "organic," or "mixed" were sorted into six profile groups. The six profile groups were those used by Pichot, Perse, Lekeoux, Dureau, Perez, and Rychewaert (1972): demoralized, "conversion V" without defensiveness, "conversion V" with defensiveness, depressed-anxious, psychotic and normal. Results indicate that all six profile types are well represented in the low back pain group. Evidence is also presented which shows that each of the pathological MMPI profile types examined across "functional," "organic," and "mixed" classification is significantly more elevated than a normal profile group on two scales (*11* and *DOR*) designed to measure functional aspects of pain. Pathological MMPI profile groups did not differ significantly from each other on the "functional" pain scales. The data presented in this study point to the relationship of various forms of psychopathology with "functional pain." The findings of this study would not support a homogeneous "pain personality" for low back pain patients. However, combined "conversion V" profiles accounted for 58% of the "functional" group, 45% of the "mixed" group and 35% of the "organic" group.

The relationship between personality variables and reported pain in orthopedic patients has proven to be extremely complex in nature. Elevations on the neurotic triad scales of the MMPI (*Hs*, *D*, *Hy*) have been characteristic of the literature (Carr, Brownsberger, & Rutherford, 1966). Furthermore, the neurotic triad scales tend to be increasingly more elevated in pain patients with multiple orthopedic surgeries (Wiltse & Rocchio, Note 1). The "conversion V" on the MMPI is often used by psychologists as a pathogenic sign in identifying somatization of psychic distress (i.e., conversion reaction). However, Carr et al. (1966) have questioned the validity of this sign with individual patients in identifying the dynamics of the pain experience. Another approach to the problem has dealt with the secondary gain associated with pain and disability (Sternbach & Rusk, 1973; Sternbach, Wolf, Murphy, & Akesson, 1973). The "pain experience" itself is described by Murray (1971) as having a cognitive component which relates to the patients' interpretation of the context, as well as an affective or emotional response. However, addressing the "pain

experience" itself, or searching for a "pain personality," fails to take into account the range of personality characteristics found in a group of chronic low back pain patients. In the present article, we intend to investigate the types of personality characteristics found in individual patients with low back pain.

Two special MMPI pain scales are of interest to us: the *Lb* because it is an MMPI "classic" and widely used; the *DOR* because it is newly developed and has shown promise. In the initial work on low back pain and the MMPI, Hanvin (1951) introduced the *Lb* scale in an attempt to identify low back pain patients with a significant somatization component to their pain reports. Little has been reported on the scale validity since it was initially published. In France, Pichot, Perse, Lekeoux, Dureau, Perez, & Rychewaert (1972) have independently developed a scale for "functional" low back pain (*DOR*). Recent research confirmed Pichot's report of incremental validity in discriminating between predominantly organic pain or functional pain by the simultaneous use of the *Lb* and *DOR* scales (Calsyn, Louks, & Freeman, 1976). A 77% hit rate in predicting functional and organic pain in individual male pa-

ents was found, by using both scales, while Pichot reported an 80% hit rate with his sample of French female patients. A previous study (Freeman, Calsyn, & Louks, 1976) reported the mean MMPI profiles for "functional" (F), "organic" (O), and a group called "mixed" (M) diagnoses. The latter group consisted of patients who demonstrated a clear organic basis for pain, based on medical examination, but whose pain reports were too great to be accounted for solely by the organic component. This group was the largest one referred by physicians and constituted 53% of our total sample. We would expect this large group of "mixed" diagnosis patients to be especially difficult to treat effectively. They do have some physical findings, but this is complicated by problems in personality adjustment. The mean profile for this "mixed" group was essentially indistinguishable from the "functional" group, but both were significantly more elevated on the neurotic triad scales (*Hs*, *D*, *Hy*) and two scales reflecting thought disorder (*Pt*, *Sc*) than the "organic" group. MMPI configuration sorting rules have been used to sort patients into six basic personality types. These groups included dental (Group A), "conversion V" without defensiveness (Group B), "conversion V" with defensiveness (Group C), depressed or anxious (Group D), psychotic (Group E), and normal (Group F) patients. Pichot, et al., reported considerable effectiveness in successfully predicting functional and organic pain by using the *DOR* and *Lb* scales together. The purpose of the present study are to determine the relationship between predominant personality organization and "organic," "mixed," or "functional" diagnoses, and to examine the elevation on the *DOR* and *Lb* scales across six MMPI profile types.

### Method

#### Subjects

Seventy-four VA Patients complaining of low back pain who were referred to the Psychology Service served as subjects (40 males, 4 females, age range 22-77,  $M = 41.5$ ). Each patient was then classified as "organic," "mixed," or "function-

al" by the orthopedic physician using the following criteria. Subjects used in this study are from the same sample pool of subjects used in two earlier studies (Calsyn et al., 1976, Freeman et al., 1976). Into the "organic" group were placed those patients whose orthopedic physician found an organic basis for their pain as determined by the physical exam, x-ray and surgery. This organic basis was determined by the physician to be sufficient to explain their pain. In the "mixed" group were placed patients whose orthopedic physician found on examination some organic basis to explain the pain, but one insufficient to account for the amount of pain and disability that patients reported. The "functional" group was composed of those patients whose orthopedic physician could find no organic basis for their pain.

### Instrumentation

Each patient was administered the MMPI as part of routine orthopedic evaluation. The raw scores were converted to *T* corrected standard *T* scores by the prescribed scoring procedures for the clinical, validity, subtle, obvious, and the special scales of the *Lb* and *DOR*.

### Procedures

The MMPI profile of each subject was sorted into one of six basic profile types independently by three raters using Pichot et al., (1972) objective sorting rules (See Appendix A for a list of the rules). There was unanimous agreement on the classification of 64 patients. Ten patients were designated "unclassified" because the sorting rules either did not place them in any of the six groups or because they could legitimately be classified in more than one group. The ten unclassified profiles were not included in the analysis. The six profile groups included dental (Group A), "conversion V" without defensiveness (Group B), "conversion V" with defensiveness (Group C), depressed or anxious (Group D), psychotic (Group E), normal (Group F).

### Results

Table 1 presents the distribution of chronic low back pain patients (predom-



Table 1  
Distribution of MMPI Categories

Personality Category	Functional		Mixed		Organic		$\chi^2$	Total		Pichot, et al.	
	n	%	n	%	n	%		n	%	n	%
A. Denial <sup>a</sup>	0	0	1	3	2	6	-	3	4	12	12
B. Conversion	4	33	11	32	6	19	3.71	21	27	24	25
C. Conversion w/o defensiveness	3	25	4	13	5	16	.50	12	16	8	8
D. Depressed/anxious	0	0	6	19	4	13	5.61	10	14	16	16
E. Psychotic	3	25	3	10	3	10	.00	9	13	7	7
F. Normal	1	8	0	0	8	26	9.57*	9	13	30	31
Unclassified <sup>a</sup>	(1)	(8)	(6)	(22)	(3)	(9)	3.67	10	15	--	--
Totals	12		31		31			74		97	
$\chi^2$	9.02		18.45**		5.00						

<sup>a</sup> The unclassified group was not included in the  $\chi^2$  analysis across profile types or in the complex  $\chi^2$  reported in the text.

\*  $p < .01$ ,  $df = 2$ ,  $\chi^2 = 9.21$ .

\*\*  $p < .01$ ,  $df = 5$ ,  $\chi^2 = 15.09$ .

nantly male veterans) into the six basic profile types. One primary feature evident in Table 1 is the range of types of personality dysfunction represented in each of the "F," "M," and "O" diagnostic groups. Previous research indicated that the MMPI mean profiles for the "F" and "M" groups are very similar to each other (Freeman et al., 1976), however, the "F" and "M" groups were not collapsed for ANOVA. These groups were treated conceptually as representing the presence of a major functional pain component. The denial category was not included in the analysis because of the small size ( $n = 3$ ). A complex Chi-square (Bruning & Kintz, 1968) yielded a nonsignificant  $\chi^2 = 2.99$ , indicating that in the overall Table 1 of various personality categories a significantly disproportionate representation among "F," "M," and "O" groups is not present. This was also the case in Pichot's sample of French females (See Table 1). That is, heterogeneity in personality dysfunction appears to be the rule rather than the exception within each of the low back pain diagnostic groups. However, each column and row were examined more closely for significant deviation from equal representation across cells in a given column or row. The Chi-squares for this analysis are presented in Table 1. Significant Chi-squares are present in the "normal" group across "F," "M," and "O" categories, and in the "Mixed" group across MMPI profile type. The "depressed anxious" groups narrowly missed significance at the .05 level. This analysis suggests that for patients with "normal" MMPIs there was a significant tendency for them to be evaluated as having "organic" pain after examination and diagnostic procedures by an orthopedic physician. This trend did not appear for patients showing any of the pathological MMPI profile types. Some additional points of interest should be highlighted in Table 1. "Conversion Vs" (Groups B and C) combined were the most common profile type in each of the "F" (58%), "M" (45%), and "O" (35%) groups. The greatest representation of "normal" profiles was in the "O" group (26%).

Evidence has been presented in previ-

Table 2  
Mean *Lb* and *DOR* Elevations  
for Each Profile Group,  
and Analysis of Variance

MMPI Profile Group			
Scale		<i>Lb</i>	<i>DOR</i>
A	<i>n</i>	3	3
	$\bar{X}$	56.33	48.00
	$\sigma$	32.64	31.00
B	<i>n</i>	21	21
	$\bar{X}$	65.63	64.05
	$\sigma$	10.89	9.07
C	<i>n</i>	12	12
	$\bar{X}$	70.00	60.00
	$\sigma$	10.24	7.78
D	<i>n</i>	10	10
	$\bar{X}$	60.30	65.20
	$\sigma$	13.99	7.52
E	<i>n</i>	9	9
	$\bar{X}$	61.11	72.67
	$\sigma$	10.75	16.39
F	<i>n</i>	9	9
	$\bar{X}$	48.89	55.00
	$\sigma$	7.42	10.30
ANOVA <sup>a,b</sup>	<i>F</i>	5.78*	3.84*
	$\Omega^2$	.24	.15

<sup>a</sup>  $df 4/59$ .

<sup>b</sup> Group A was eliminated from ANOVA due to the rarity of this profile type in our population.

\*  $p < .01$ .

our articles (Calsyn et al., 1976; Freeman et al., 1976) that the *DOR* scale proved helpful in predicting "F," "M," or "O" group status. In Table 2 the mean elevations on *Lb* and *DOR* (scaled scores) are shown for five of the six personality categories, along with "F" values computed by one-way ANOVA, significance levels, and  $\Omega^2$  (proportion of variance accounted for) (Hays, 1963).

Simple effect differences between pairs

Table 3

Mean *Lb* and *DOR* Elevations  
for "F", "M", and "O" Diagnosis,  
and Analysis of Variance

Diagnosis		
Scale	<i>Lb</i>	<i>DOR</i>
Functional		
<i>n</i>	12	12
$\bar{X}$	65.75	68.91
$\sigma$	11.33	13.67
Mixed		
<i>n</i>	31	31
$\bar{X}$	65.94	68.39
$\sigma$	12.90	9.17
Organic		
<i>n</i>	31	31
$\bar{X}$	56.87	56.32
$\sigma$	10.70	8.00
ANOVA <sup>a,b</sup>		
<i>F</i>	9.37*	14.69*
$\Omega^2$	.18	.27

<sup>a</sup> *df* 2/71.

<sup>b</sup> Group A was included in this ANOVA, as well as the 10 "unclassified" profile types.

\*  $p < .01$ .

of means were analyzed after the one-way ANOVA showed overall significance among MMPI profile groups for both *Lb* and *DOR* and the .01 level by measuring *t* test for simple effects (Bruning & Kintz, 1968). For the *Lb* scale, normals (group F) differed significantly from each of the four pathological groups analyzed at or beyond the .05 level. In addition, group C (conversion V without defensiveness) was significantly higher on the *Lb* scale than group E (psychotic). No other profile types were significantly different from each other on the *Lb* scale. The same general trend also holds true for the *DOR* scale. However, on the *DOR* the significant differences are be-

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tween the normals (group F) and group B (conversion V) D (Depression and E (psychotic). An additional significant difference is present between group C (conversion V without defensiveness) and group D (Depression). The clearest trend suggested by these results is that various types of pathological MMPI profile configurations show significantly higher *Lb* and *DOR* scores than do normal configurations. Furthermore, there is a decided absence of evidence to suggest that the different pathological configurations differ very much from each other on either the *Lb* or *DOR*.

In Table 3, the results of the one-way ANOVA for the *Lb* and *DOR* scales across the "F," "M," and "O" diagnostic groups are presented. The *F* ratios are significant for both of these scales at the .01 level. Comparisons of the means showed, for both *Lb* and *DOR*, that the "F" and "M" group were each significantly more elevated than the "O" group and were not significantly different from each other. This finding supports the conclusion that the *Lb* and *DOR* scales are in agreement with the orthopedic physician's rating of the presence of a personality component to pain complaints, as compared to a purely organic origin.

It seems reasonable to conclude from this work, and from the efforts of other investigators of chronic low back pain that psychopathology in its many forms is closely associated with what is known as functional low back pain. However, the strength of association between *Lb* and MMPI profile groups ( $\Omega^2 = .24$ ) and between *DOR* and MMPI profile groups ( $\Omega^2 = .15$ ) was not strong in this data. It suggests that 24% of the variance in *Lb* and 15% of the variance in *DOR* were accounted for by their relationship with MMPI profile configuration type.

### Discussion

Although personality trends regarding low back pain patients may exist as suggested by MMPI research on the subject (utilizing mean group profiles), the implications of the present study cast doubt on the utility of the process of look-

ing for a homogeneous "pain personality." We found normal profiles to be uncommon in the "F," "M," or "O" diagnostic groups (13% of total sample), although most common in the organic group, suggesting that chronic pain, whether "F," "M," or "O" is associated with personality dysfunction. Furthermore, although combined "conversion V" profiles were more common in the "F" and "M" groups than in the "O" group (43% of total sample), this difference was not significant in degree when tested with  $\chi^2$ . Finally, although depressed, anxious, and psychotic profiles were not as common as "conversion V" profiles, they were strongly represented (27% of total sample) across pain categories.

It appears from this and other recent studies on low back pain that a re-evaluation of the meaning of concepts like "pain personality" and "conversion V" is warranted. The "mean profile" approach conveys valuable information about group tendency in specified pain patient groups, across individuals, but information regarding group heterogeneity is lost in that method. Individual personality structure needs much closer screening within pain patient groups for consultation purposes since psychologists are usually called on to make statements about individuals, rather than about groups of patients.

We may conceive of "functional pain" as a relatively undifferentiated construct which has utility in specifying the presence of "pain" which is due to causes other than objective tissue damage. The combined research literature at the present, however, suggests that "functional pain" is due to multiple sources of causation, and that no single source, whether personality structure, secondary gain, or cognitive aspects, is a totally sufficient explanation of "functional pain." This is a critical point in performing an adequate job of assessment and treatment with individual patients. The present

study suggests that the presence of psychopathology in one of its many forms is associated with "functional pain" rather than necessarily the presence of a particular form of psychopathology such as "conversion neurosis."

#### Reference Note

1. Wiltse, L. L., & Rocchio, P. D. *Predicting success of low-back surgery by use of pre-operative psychological tests*. Paper presented at the Annual Meeting of the American Orthopaedic Association, Hot Springs, Virginia, June 26, 1973.

#### References

- Bruning, J. L., & Kintz, B. L. *Computational handbook of statistics*. Glenview IL: Scotts Foresman & Co., 1968.
- Calsyn, D. A., Louks, J. I., & Freeman, C. W. The use of the MMPI with chronic low back pain patients with a mixed diagnosis. *Journal of Clinical Psychology*, 1976, 32, 532-536.
- Carr, J. E., Brownberger, C. N., & Rutherford, R. G. Characterization of symptom matched psychogenic and real pain patients of the MMPI. *Proceedings of the 4th Annual Convention of the American Psychological Association*, 1966, 1, 215-261.
- Freeman, C. W., Calsyn, D. A., & Louks, J. I. The use of the Minnesota Multiphasic Personality Inventory with low back pain patients. *Journal of Clinical Psychology*, 1976, 32, 294-298.
- Havvik, L. J. MMPI profiles in patients with low back pain. *Journal of Consulting Psychology*, 1951, 15, 350-353.
- Hays, W. L. *Statistics for psychologists*. New York: Holt, Reinhart & Winston, 1963.
- Murray, J. B. Psychology of the pain experience. *Journal of Psychology*, 1971, 85, 193-206.
- Pichot, P., Perle, J., Lecomte, M. O., Dureau, J. L., Perez, C. L., & Rychewaert, A. La Personnalité Des Sujets Présentant Des Douleurs Dorsales Fonctionnelles. Valeur De L'Inventaire Multiphasique De Personnalité Du Minnesota. *Revue de Psychologie Appliquée*, 1972, 22, 145-172.
- Sternbach, R. A., Wolf, S. R., Murphy, R. W., & Akerson, W. H. Traits of pain patients: The low-back loser. *Psychosomatics*, 1973, 14, 226-229.
- Sternbach, R. A., & Rusk, T. N. Alternatives to a pain career. *Psychotherapy Research and Practice*, 1973, 10, 321-324.



## Appendix A

MMPI Profile Sorting Rules for *K* Corrected *t* Scores

Group	Criterion
A. Denial	$K \geq 60, K \geq Hs$ and $K \geq Hy$
B. Conversion V	$K < 60, Hs \geq D$ and $Hy \geq D$ or $Hs > D > Hy > 70$ or $Hy > D > Hs > 70$
C. Conversion V without defensiveness	$Hs \geq D$ and $Hy \geq D$ and $K \geq 60$ with $K < Hy$ or $K < Hs$
D. Depressed/anxious	$D \geq 70$ and the more elevated of the clinical scales; or $Pt \geq 70$ and the more elevated of the clinical scales.
E. Psychotic	Among $Tp, Pa, Sc, Ma$ at least of the scales are 5 standard score points above the others (i.e. $Hs, D, Hy, Pd, Ms, Si$ ) clinical scales and at least two of the four ( $Pt, Pa, Sc, Ma$ ) $\geq 70$ .

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## **Personality Differences Between Intrinsically Religious and Nonreligious Students: A Factor Analytic Study**

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**Summary:** By means of Allport's Religious Orientation Inventory (ROI) 145 students were classified as intrinsically religious and 133 as nonreligious. Personality differences between the two groups were explored on the basis of their scores on EPPS, the CPI, and 16 PF Questionnaire. Factor analysis of the combined 49 subscales of these three instruments produced eight factors: Achievement Potential, Self-Control, Social Ascendancy, Affiliation, Personal and Social Adequacy, Egocentric Sexuality, Restlessness, and Stereotyped Femininity. Analyses of variance of the factor scores of the two groups of subjects showed significant differences on five of the eight factors, accounting for a total of 25% of the total variance. The intrinsically religious scored significantly higher on Self-Control, Personal and Social Adequacy, and Stereotyped Femininity; the nonreligious scored higher on Egocentric Sexuality and Restlessness. These results were discussed in relation to some of Allport's ideas on religion as a dimension of personality.

Most studies of religion as a component of personality have dealt with it as a unitary factor without any attention to different kinds of religious involvement. These investigations have tended to classify people as religious and nonreligious in terms of adherence or nonadherence to orthodox doctrines and conventional religious practices.

Typical of these investigations are those of Adorno, Frenkel-Brunswick, Levinson, and Sanford (1950); Blum and Mann (1960); Cline and Richards (1965); Gregory (1957); Khanna (1956); Rokeach (1960); Stark (1963); Webster (1966); and Wilson and Miller (1968). These reports have consistently presented evidence that when religious subjects are identified in terms of orthodox beliefs and conventional religious observances, they tend to have more prejudice, rigidity, suspicion, and general personal immaturity than the nonreligious. Allport (1957, 1965, 1968) has protested that the concept of religion as a unitary component is too vague and too broad to be useful in studying differences among people, because religious sentiment varies in depth, breadth, content, and mode of functioning. He has argued that as a component of personality related to personal well-being, the critical issue is the nature of one's involvement with religion, i.e., whether it is extrinsic or in-

trinsic, rather than orthodoxy of beliefs.

In order to provide a means of assessing the nature of religious involvement, Allport (1968) developed the Religious Orientation Inventory (ROI), focusing on the extrinsic-intrinsic continuum. He assumed that the extrinsic orientation characterizes the immature person who tends to use religion instrumentally, while intrinsic orientation is found in the more mature person, the one committed to religious values as ultimates. Persons who are religious out of extrinsic motivations may find their religion useful in a variety of ways, e.g., to provide security and comfort, sociability and distraction, or status and justification. These people may take their creeds lightly or else shape them to fit other needs. In contrast, those who are intrinsically motivated find their central motive in religion. However strong their other needs may be, they are perceived as having less significance than their need to live in faithfulness to their religious commitment. They seek to live their religion in that they endeavor to internalize religious values and to follow them fully. Allport believed that this kind of religious involvement serves as a unifier of personality, thus contributing to the well-being of the person.

When the ROI has been used in studies of religion as a component of personality, the results have consistently shown that

extrinsic orientation is associated with the same negative characteristics found in the studies based on orthodoxy of beliefs, but that intrinsic involvement is associated with the opposite healthier personal characteristics. Such studies based on the ROI include those of Allport and Ross (1967), Brannan (1970), Feagin (1964), Photiadis and Biggar (1962), and Rice (1971).

Since these studies support Allport's idea that religion as an element in personality varies in kind, any comparison of the personalities of religious and nonreligious people should identify the orientation of the religious subjects being studied. (It may well be that the nonreligious subjects also vary in their orientations, but that possibility is outside the scope of this paper.)

The ROI is constructed so that it can identify a nonreligious orientation as well as three different types of religious involvement. The instrument is composed of 20 statements, 11 expressing extrinsic involvement and 9 expressing intrinsic. The subjects respond to each statement with one of four choices ranging from strong agreement to strong disagreement. Then, depending on their tendency to agree or disagree with the two types of statements, they can be assigned to one of four classifications: intrinsically religious (agreement with intrinsic and disagreement with extrinsic), extrinsically religious (agreement with extrinsic and disagreement with intrinsic), indiscriminately proreligious (agreement with both intrinsic and extrinsic), or nonreligious (disagreement with both intrinsic and extrinsic). These categories are, of course, not discrete but represent tendencies toward the various orientations.

Within the classification system based on tendencies toward acceptance and rejection of intrinsic and extrinsic statements on religious involvement, the intrinsically religious and the nonreligious are alike in that they both tend to reject the extrinsic statements. This common rejection suggests that they both function at a higher level of maturity than the extrinsically religious and the indiscriminately proreligious, both of whom tend

to agree with the extrinsic statements of the inventory. What does differentiate the intrinsically religious and the nonreligious is their responses to the intrinsic statements. The intrinsically religious subjects tend to accept them, while nonreligious tend to reject them. Allport (1968) assumed that intrinsic religious commitment should provide an integrating force not available to the nonreligious and that the presence or absence of such a force can be the basis for differentiating personality types. This investigation was designed to explore whatever personality differences that might differentiate the two groups.

### *Method*

The subjects for this study were taken from a pool of 438 students in mental health classes composed primarily of fourth- and fifth-year university students. These students were not representative of students in general, since nearly all of them were preparing for work in helping professions. Because of known similarities among them, whatever differences that appear may be conservative estimates of differences that would be found among a more heterogeneous sample. By means of the ROI, 145 were classified as intrinsically religious and 133 as nonreligious. Of these 77 were male and 201 were female. Their ages ranged from 19 through 50, with a mean of 25.

In order to obtain a wide range of personality measures, three multidimensional instruments were employed. Sixteen Personality Factor Questionnaire (16 PF) (Cattell & Eber, 1962; Cattell, Eber, & Tatsuoka, 1970); Edwards Personal Preference Schedule (EPPS) (Edwards, 1959); and California Psychological Inventory (CPI) (Gough, 1957; Megargee, 1972). Together these three instruments generated a total of 49 different scale scores for each subject.

As a means of identifying broad, underlying dimensions of personality that might exist among these measures, the 49 scores for the whole subject pool were factor analyzed. First of all, the correlation matrix was analyzed by 14 different procedures in order to arrive at the one

that most clearly represented the factors. The one selected was a principal components analysis, using an oblique rotation. A Scree plot of percent of variance accounted for versus factors and a Scree plot of eigenvalues versus factors both indicated eight factors; eigenvalues greater than 1.0 indicated ten; and eight factors were clearly interpretable. Eight factors were selected, accounting for 57% of the total variance. Next, factor scores were derived for each of the eight for all of the subjects. Then these derived factor scores were subjected to two-way analyses of variance, with sex and religion as the two variables. Sex was introduced not because of interest in sexual differences per se, but rather to check for interaction effects.

### Results

Table 1 presents the factor matrix for the eight factors. Inspection of these loadings of .35 and greater led to the following descriptions of the content of the factors, along with the percent of the total variance and a tentative label for each one.

All of the heavy loadings for Factor I (18.5% of total variance) are related to productivity or achievement. Most of them are measures of modes of coping, while some are subjective conditions that can be expected to contribute to achievement. The greatest loadings are on scales from the CPI, presented here in descending order of magnitude: Achievement-by-Independence (.81), Intellectual Efficiency (.74), Psychological-Mindedness (.67), Achievement-by-Conformance (.55), Capacity for Status (.54), Well-Being (.53), Self-Control (.51), Flexibility (.51), Responsibility (.49), Good Impression (.42), and Dominance (.36). These are accompanied by 16 PF Imaginativeness (.51) and Intelligence (.39) and by EPPS Abasement (-.40). This factor is labeled *Achievement Potential*.

The scales with high loadings for Factor II (12.1% of variance) all deal with instinctual forces and their control or expression, some of which focus on regard for the effects one's impulse impression has on other people. The highest loading is for EPPS Autonomy (-.72), which is a measure of the need for unrestrained im-

pulse gratification. Loadings from the 16 PF include Self-Discipline (.57), Superego (.53), Liberalism (-.49), and Self-Assertion (-.46). The CPI loadings include Communitality (.66), Socialization (.48), Achievement-by-Conformance (.39), and Flexibility (-.37). Loadings from EPPS include Aggression (-.43) and Affiliation (.36). The only one of these measures that may not appear to be related to the control or expression of instinctual forces is 16 PF Liberalism. Karson and O'Dell (1976) are persuaded on the basis of clinical observations that the scale is a measure of intellectualized forms of hostility. This factor has been named *Self-Control*.

Factor III (7.3% of variance) has one cluster of high loadings from the CPI and another from the 16 PF, both of which are composed largely of measures of confident assertiveness or ascendancy in interpersonal relations. The CPI measures are Dominance (.78), Sociability (.78), Self-Acceptance (.73), Social Presence (.66), and Capacity for Status (.56). Those from the 16 PF are Venturesomeness (.79), Impulsivity (.60), Assertiveness (.51), Warmth (.48), and Independence (-.41). From the EPPS there is also Dominance (.57). This factor is called *Social Ascendancy*.

Factor IV (6.3% of variance) has one cluster from the EPPS—Nurturance (.64), Affiliation (.56), and Succorance (.42)—that focuses on the need for interpersonal relationships. Another group composed of EPPS Order (-.68) and Endurance (.64), 16 PF Superego (.46) and Self-Discipline (.36), and CPI Flexibility (.47) suggests that these personal relationships are experienced without inhibition. The factor has been labeled *Affiliation*.

Factor V (3.9% of variance) is composed of scales related to personal and social adjustment. The scales with high loadings from the 16 PF—Tension (-.82), Ego Strength (.76), Guilt (-.75), Mistrust (-.53), Self-Discipline (.43), and Venturesomeness (.42)—are precisely those that Cattell, Eber, and Tatsuoaka (1970) have identified as comprising the Second Order Factor Anxiety. In contrast to the loadings for Anxiety, all



Table 1  
Rotated Factor Matrix for CPI, 16 PF, and EPPS  
(decimals omitted)

Factor	I	II	III	IV	V	VI	VII	VIII
<b>CPI</b>								
Dominance	36	02	78	-05	27	-11	-11	-11
Capacity for Status	54	02	56	09	39	06	24	-16
Sociability	31	19	78	02	41	06	22	-09
Social Presence	34	-15	66	19	25	30	36	-27
Self-Acceptance	20	04	73	12	05	13	08	-18
Well-being	53	21	30	-18	63	-13	07	08
Responsibility	49	31	23	-15	42	-26	-22	30
Socialization	12	48	13	-12	38	-05	-16	50
Self-Control	51	28	-13	-26	61	-39	-10	29
Good Impression	42	16	24	-15	73	-40	15	09
Communality	08	66	11	-06	-07	08	-16	02
Achievement-by-Conformance	55	39	29	-25	59	-18	-17	17
Achievement-by-Independence	81	06	-05	09	28	-05	00	-08
Intellectual Efficiency	74	13	34	03	47	-06	00	-09
Psychological Mindedness	67	-17	23	04	22	-01	12	-20
Flexibility	51	-37	-03	47	07	14	38	-17
Femininity	-12	11	-14	08	-17	-04	07	71
<b>16 PF</b>								
A Warmth	-10	09	48	-02	30	-04	-12	43
B Intelligence	39	05	-04	11	08	17	-26	-29
C Ego Strength	30	02	27	04	76	03	00	-05
E Assertiveness	14	-46	51	11	-05	18	-08	-46
F Impulsivity	-19	-09	60	25	09	28	39	-05
G Superego	-27	53	09	-46	12	-20	-29	17
H Venturesomeness	08	-05	79	05	42	05	13	-09
L Mistrust	-26	-36	07	00	-53	03	-09	-14
M Imaginativeness	51	-25	11	14	15	-15	10	-33
N Shrewdness	-01	23	-22	-16	03	-08	-27	41
O Guilt	-32	-07	-32	03	-75	-06	00	14
Q1 Liberalism	13	-49	14	-02	-11	-08	06	-52
Q2 Independence	22	-20	-41	-16	-25	-02	-17	-24
Q3 Self-Discipline	00	57	11	-36	43	-29	-15	09
Q4 Tension	-25	-05	-24	-03	-82	11	-08	12

(cont'd next page)

Table 1 (cont'd)

Factor	I	II	III	IV	V	VI	VII	VIII
<b>EPPS</b>								
Achievement	22	01	01	-31	08	20	-26	-47
Deference	02	34	-30	-20	25	-26	07	29
Order	-19	29	23	-68	00	-03	23	26
Exhibitionism	-14	-17	23	02	17	43	02	-25
Autonomy	15	-72	05	01	-12	11	13	-37
Affiliation	05	36	15	56	24	-20	11	18
Intraception	23	-10	-11	15	00	-51	24	-11
Succorance	-03	01	-24	42	-29	31	-30	33
Dominance	19	-05	57	-20	22	-15	-30	-31
Abasement	-40	13	-33	21	-17	-28	01	37
Nurturance	-03	22	01	64	12	-25	-03	23
Change	05	-13	17	06	03	06	72	-11
Endurance	-02	30	-11	-64	10	-26	-14	06
Heterosexuality	09	-05	-04	02	-11	72	17	08
Aggression	-16	-43	23	-15	-37	12	-32	-10

the signs in this factor are reversed, indicating the absence of anxiety. The scales from the CPI deal with two related themes. One is sensitivity, responsibility, and accommodation in interpersonal relations — Good Impression (.73), Self-control (.61), Achievement-by-Competence (.59), Responsibility (.42), Sociability (.41), and Socialization (.38). The other is personal adequacy — Well-being (.63) and Intellectual Efficiency (.47). This factor also includes EPPS Aggression (-.37). The factor has been named *Personal and Social Adequacy*. Factor VI (3.5% of variance) has only one very high loading, EPPS Heterosexuality (.72). The items that make up this EPPS scale are all expressions of the egocentric need for sexual gratification per se, not statements about the sharing of one's self with the partner who is valued as a person. EPPS Exhibition (.43) is also a measure of an egocentric need. The remaining scales, all loaded negatively, are expressions of sensitivity to the impact of one's behavior upon other people. These are EPPS Intraception (.51), CPI Good Impression (-.40), and CPI Self-Control (-.39). The factor

has been called *Egocentric Sexuality*.

Factor VII (2.7% of variance) has one scale with a high loading, EPPS Change (.72). Since its minor loadings — 16 PF Impulsivity (.39), CPI Flexibility (.38), and CPI Social Presence (.36) — also suggest a need for constant shift in attention or activity, this factor has been named *Restlessness*.

Factor VIII (2.7% of variance) has only one major loading, CPI femininity (.71). There are lesser loadings for 16 PF Liberalism (.52), Assertiveness (.46), Warmth (.43), and Shrewdness (.41), for CPI Socialization (.50), and for EPPS Achievement (-.47) and Autonomy (-.37). Because all of these minor loadings are congruent with the feminine stereotype of passivity, subjectivity, affiliation, sensitivity, and accommodation, this factor is labeled *Stereotyped Femininity*.

The mean factor scores by sex and by religious orientation are given in Table 2, and the results of the analyses of variance are summarized in Table 3. Since the project was not concerned with sex differences for their own sake, it will only be noted in passing that significant differ-

Table 2

Mean Factor Scores by Sex and by Religious Orientation

Factor	Male ( <i>n</i> = 77)	Female ( <i>n</i> = 201)	Intrinsically Religious ( <i>n</i> = 145)	Nonreligious ( <i>n</i> = 133)
I	.2105	.0136	-.0003	-.1427
II	.0131	-.0038	.2742	-.2971
III	-.0264	-.0394	.0262	-.1033
IV	-.4849	-.4486	-.4430	-.4756
V	.3128	-.0278	.3017	-.1898
VI	-.1335	-.0134	-.2160	.1380
VII	-.3332	.0824	-.1629	.1092
VIII	-.8342	.3091	.2672	-.3072

ences were found for three of the factors. Males were higher on Personal and Social Adequacy, and females were higher on Restlessness and Stereotyped Femininity. There were no significant interaction effects for sex and religion. For religious orientation as a main effect, significant differences appeared for five of the eight factors. The intrinsically religious scored higher on Self-Control, Personal and Social Adequacy, and Stereotyped Femininity, while the nonreligious scored higher on Egocentric Sexuality and Restlessness. These five factors combined accounted for 24.9% of the total variance. The two groups did not differ significantly on Achievement Potential, Social Ascendancy, and Affiliation, these three factors accounting for 32.1% of the total variance. It should be recalled that nearly all of the subjects in this study were preparing for work in helping professions. The three factors for which the intrinsically religious and the nonreligious did not differ significantly are all personal characteristics appropriate for people in such professions. An inspection of the mean scores for all of the subjects in this study on the scales that have heavy weightings for these three factors has shown all of them to be higher than the norms for

college students in general. Since the comparison groups in this study are so homogeneous along these dimensions an investigation of subjects drawn from a more heterogeneous source might produce more differences between the intrinsically religious and the nonreligious than have appeared in this project.

These results provide some confirmation of Allport's expectation that the intrinsically religious and the nonreligious would differ on some basic personality dimensions. The higher mean scores of the religious subjects on Self-Control and Stereotyped Femininity and their lower mean score on Egocentric Sexuality all indicate greater control of their primitive impulses out of regard for something or someone other than themselves. This apparently represents the ethical and the socializing impact of religious commitment. Their higher mean on Personal and Social Adequacy and their lower mean on Restlessness both suggest higher levels of personal integration and fulfillment. This result provides some support for Allport's claim that intrinsic religious involvement functions as a proprium that is life enhancing for that person.

Table 3  
Analyses of Variance Based on Factor Scores

Factor	Source	df	MS	F
	Sex	1	1.72	1.70
	Religious Orientation	1	.87	.86
	Sex X R O	1	.01	.01
	Error	274	1.02	
	Sex	1	.74	.71
	Religious Orientation	1	23.29	22.42***
	Sex X R O	1	1.37	1.32
	Error	274	1.04	
	Sex	1	.01	.01
	Religious Orientation	1	.10	.10
	Sex X R O	1	2.20	2.13
	Error	274	1.03	
	Sex	1	.04	.53
	Religious Orientation	1	.12	1.41
	Sex X R O	1	.08	1.01
	Error	274	.08	
	Sex	1	10.15	10.76**
	Religious Orientation	1	19.85	21.05***
	Sex X R O	1	1.09	1.15
	Error	274	.94	
	Sex	1	1.87	1.87
	Religious Orientation	1	9.96	9.94**
	Sex X R O	1	.77	.77
	Error	274	1.00	
	Sex	1	11.63	11.30***
	Religious Orientation	1	5.80	5.62*
	Sex X R O	1	.00	.00
	Error	274	1.03	
	Sex	1	61.06	79.05***
	Religious Orientation	1	15.51	20.08***
	Sex X R O	1	2.02	2.61
	Error	274	.77	

\*  $p < .05$ .  
 \*  $p < .01$ .  
 \*  $p < .001$ .



## References

- Adorno, T. W., Frenkel-Brunswick, E., Levinson, D. J., & Sanford, R. N. *The authoritarian personality*. New York: Harper, 1950.
- Allport, G. W. *The individual and his religion*. New York: Macmillan, 1957.
- Allport, G. W. *Pattern and growth in personality*. New York: Holt, Rinehart & Winston, 1965.
- Allport, G. W. *The person in psychology*. Boston: Beacon Press, 1968.
- Allport, G. W., & Ross, J. M. Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, 1967, 5(4), 432-443.
- Blum, B., & Mann, J. H. The effect of religious membership on religious prejudice. *Journal of Social Psychology*, 1960, 52, 97-101.
- Brannan, R. C. Gimme that old time racism. *Psychology Today*, 1970, 11, 42-44.
- Cattell, R. B., & Eber, H. W. *Manual for forms A & B. Sixteen Personality Factor Questionnaire*. Champaign, Ill.: Institute for Personality & Ability Testing, 1962.
- Cattell, R. B., Eber, H. W., & Tatsuoka, M. W. *Handbook for the Sixteen Personality Factor Questionnaire*. Champaign, Ill.: Institute for Personality & Ability Testing, 1970.
- Cline, V. B., & Richards, J. M. A factor-analytic study of religious belief and behavior. *Journal of Personality and Social Psychology*, 1965, 1(6), 569-578.
- Edwards, A. L. *Manual, Edwards Personal Preference Schedule* (rev. ed.). New York: The Psychological Corporation, 1959.
- Feagin, J. R. Prejudice and religious types: A focused study of southern fundamentalism. *Journal for the Scientific Study of Religion*, 1964, 4(1), 3-13.
- Gough, H. G. *California Psychological Inventory manual*. Palo Alto: Consulting Psychological Press, 1957.
- Gregory, W. E. The orthodoxy of the authoritarian personality. *Journal of Social Psychology*, 1957, 45, 217-232.
- Karson, S., & O'Dell, J. W. *A guide to the clinical use of the 16 PF*. Champaign, Ill.: Institute for Personality & Ability Testing, 1976.
- Khanna, J. L. A study of the relationship between some aspects of personality and certain aspects of religious beliefs (University of Colorado 1956.) *Dissertation Abstracts*, 1957, 17, 2696-2697.
- Megargee, E. I. *The California Psychological Inventory handbook*. San Francisco: Jossey-Bass, 1972.
- Photiadis, J. D., & Biggar, J. Religiosity, education, and ethnic distance. *American Journal of Sociology*, 1962, 67(6), 666-672.
- Rice, C. A. The relationship between intrinsic and extrinsic orientations to selected criteria of mental health. (Boston University Graduate School, 1971.) *Dissertation Abstracts*, 1971, 32(4-A), 2194.
- Rokeach, M. *The open and closed mind*. New York: Basic Books, 1960.
- Stark, R. On the compatibility of religion and science: A survey of American graduate students. *Journal for the Scientific Study of Religion*, 1963, 3, 3-20.
- Webster, A. C. Patterns and relations of dogmatism, mental health and psychological health in selected religious groups. (Syracuse University, 1966) *Dissertation Abstracts*, 1967, 27, 4142.
- Wilson, W., & Miller, H. L. Fear, anxiety, and religiousness. *Journal for the Scientific Study of Religion*, 1968, 7(1), 111.
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## Cross-Cultural Second Order Factor Structures of the 16PF

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**Summary:** Cross-cultural personality research has generated a great amount of data on individual difference patterns in diverse cultures. One of the major instruments used in this research has been Cattell's 16PF. A major question in this research is whether the underlying personality structure is equivalent for different cultures. The present study evaluated the second order factor structure of the 16PF in 101 subjects of European ancestry and 117 subjects of Japanese ancestry. The factor structure for the Japanese was significantly different from that of the caucasian group. The caucasian results did not differ from those reported by Cattell and his associates. The implications of these results for personality theory and for cross-cultural evaluation were briefly discussed.

Cross-cultural personality research has generated a great deal of information on differences between individuals in diverse cultures. One of the foremost measures of individual differences across cultural boundaries has been Cattell's 16PF (Cattell, Eber, & Tatsuoka, 1970). Cattell (1973) reports that there have been numerous studies investigating the cross-cultural applicability of the 16PF as well as the differences in personality expression among cultures.

One major question this research has evaluated is that of the secondary factors of the 16PF, derived by factor analyzing the scores on the primary 16 scales. If the 16PF is cross-cultural, it would be expected that the primary abilities that make up each second order factor would be the same across cultures. The cultures might create individuals who differ in the degree that they have some quality, but there should be no differences in the pattern of interrelationships between the qualities. Cattell (1970, 1973) has indicated that the factor analysis of the 16PF yields eight secondary factors. The first factor, extraversion, represents people on a scale of warmth, impulsivity, boldness, and self-sufficiency. The second factor, anxiety, is the most important second order factor. Karson and O'Dell (1976) report that it is the principle indicator of pathology on the 16PF and often indicative of serious problems. The third factor presents tough-mindedness. Individuals high on this factor tend to be aloof, and lack warmth and sensitivity.

The fourth factor measures independence, the tendency of an individual to like to do things in his or her own way. The fifth factor is sociopathy, with high scorers showing freedom and general lack of restraint, similar to the *Pd* scale of the MMPI. The remaining three factors are less established than these first five, their meanings not being firmly established (Karson & O'Dell, 1976).

Several major methodological problems have made cross-cultural research in this area difficult. First, the interpretation of questions may vary widely among residents of different cultures. The apparent meaning of a question to an individual in one culture may be much different from that meaning to an individual in another culture. While similar problems exist among people of the same country, this is much more serious across cultures, especially when translation into a second language is necessary. Secondly, there are problems of equivalency of subjects. It is difficult to ensure that extraneous factors (e.g., education, area of birth, social status, etc.) are kept constant between two samples in two different countries. Finally, the techniques of factor analysis have not been standardized. One study may use an orthogonal analysis, while the next an oblique analysis. One study may decide to extract three factors while another will extract six. Each of these procedures, as well as other similar manipulations, can greatly alter the results of a study.

A review of the studies presented by

Cattell (1973) suggests a higher degree of correspondence across cultures on the second order factors of extraversion and anxiety, with corresponding less agreement on the existence or structure of the remaining six factors. Cattell dismisses many studies not agreeing with his conclusions as having used the wrong methods to sample populations or to analyze the data.

The cross-cultural diversity of the Hawaiian islands offers a method of controlling for the first two objections presented above. Although clear cultural lines exist, individuals share public institutions and so are comparable in such matters as educational background, primary language, general experiences and overall outside influences. Some research comparing Americans of Japanese ancestry (AJA) with Americans of European ancestry (AEA) in Hawaii has been done by Meredith (1966) and Merideth and Meredith (1966). They found that the two groups differed in mean scores on several of the primary factors of the 16PF as well as on the secondary factors of anxiety and extroversion. They did not attempt, however, to derive the second order factor structure from the 16 primary scales.

The present study is an attempt to compare the second order factor structure of AJAs and AEAs in Hawaii. If Cattell's theory that personality structure is cross-cultural is correct, there would be a close relationship between the results of the two groups.

### Method

#### Subjects

Altogether, 217 subjects were tested for the study. All were undergraduates at the University of Hawaii, who received class points for participation. The mean age of the participants was 20. Of the total, 117 subjects were third generation AJAs while 100 subjects were AEAs. Of the 117 AJAs 52% were female, and in the AEA sample, 53% were female. Overall, the sample included 113 females and 104 males.

#### Materials and Procedure

The 1967-68 Edition of the 16PF

(Form A) published by the Institute for Personality and Ability Testing was given to each subject. Each subject was allowed as much time as necessary to complete the questionnaire.

### Results

Using the scoring keys for the 16PF, scores were derived for each of the 16 primary factors. These scores were then factor analyzed for each group separately. A principle components analyses was used with iterations, which allowed the computer to use successively more accurate communalities on the diagonal of the correlation matrix.

The resulting factors were then analyzed by the Scree test (Cattell, 1966). The Scree test allows an objective determination of the number of factors which should be rotated. In each case, the Scree test indicated that right factors were necessary. These factors were then obliquely rotated. Sixty different rotations were calculated, each with a different degree of obliqueness. For each of these solutions, a hyperplane count was determined by counting the percentage of all variable loadings on the eight factors in the hyperplane. For the purpose of this study, all loadings between +.20 and -.20 were considered essentially zero and within the hyperplane. The solution with the highest hyperplane count (the simple solution) was used as the basic factor structure of the data for each group. All the procedures for the analysis were taken from those suggested by Cattell (1973).

The results from the AEA sample<sup>1</sup> were essentially identical to the results found in other American populations by Cattell, although the order of the factors differed somewhat. For the AJA population, however, the factors which were extracted were almost completely different from these in the AEA sample and the factors reported by Cattell (1970). Table 1 lists for both samples the primary scales from the 16PF which loaded on each factor.

<sup>1</sup> Individuals wishing the full rotated factor structure may obtain a copy by writing the author at the address given in this article.

Table 1

16PF Scales Loading Highest on  
Each Second Order Factor  
for Both Cultural Groups

Group	Factor	Scales <sup>a</sup>
AJA (n = 117)	I	H-, O+, F-, Q4+
	II	G+
	III	Q2-, F+
	IV	E+, H+, C+
	V	Q4+, C-, O+
	VI	B-, Q1+
	VII	F-, A-
	VIII	L-, C+, O-
AEA (n = 101)	I	O+, C-, Q4+, L+
	II	E-, Q1-
	III	F-, A-, H-
	IV	I+, M+
	V	N+, E-
	VI	G-, Q3-
	VII	B-
	VIII	Q2+, H-, F-

<sup>a</sup> Factors listed all had loadings greater than .40 in order of importance. Sign following each scale indicates whether the loading was positive or negative.

### Discussion

The data support an interpretation that while the AEA in Hawaii show a second order factor pattern almost identical to that found by Cattell, the AJA sample is overall significantly discrepant from both Cattell's results and the AEA results in this study. This is especially significant when the methodology of the experiment is considered, since both the AJA and AEA samples represent the same education, social level, and the same general environment.

There are several important implications of these results. First, it is clear that the meaning of the scales and their relationship is significantly different for the AJA. As a result, any interpretations of the results of the 16PF must take this into account. The failure of Cattell's anxiety factor to appear is particularly important since this scale is felt to be the major index of psychopathology on the test (Karson & O'Dell, 1976). Although one of the derived factors in the AJA sample may serve the same purpose as the anxiety factor, it would be necessary to conduct extensive validation work before the 16PF could be used clinically with an AJA population.

In addition, the failure to replicate the second order factor structure, questions the common practice of deriving interpretations from samples which only include minority populations to the extent they are represented in the general population. There is a clear need for standardization of the test for identifiable cultural groups, both for factorial purity and average scores, as it is clear that identity of meaning and interpretation cannot be assumed.

The present results do not necessarily invalidate or question the theory of personality Cattell has proposed, but raise grave questions over the appropriateness of using the 16PF interchangeably across cultural groups. Although data are not presented on other personality tests in this study, the clear results with the 16PF must lead us to question these other tests as well.

Recently, there has been extensive debate on the appropriateness of psychological tests for disadvantaged populations. The present results illustrate that significant problems can occur in interpreting the test results even with a group as highly "assimilated" and well educated as the third generation AJA college student. These results indicate the need for extreme caution by the clinician or personality theorist in the use of personality evaluation in any minority population, whether or not it may be "disadvantaged."



## References

- Cattell, R. B. The scree test for the number of factors. *Multivariate Behavioral Research*, 1966, 1, 140-161.
- Cattell, R. B. *Personality and mood by questionnaire*. San Francisco: Jossey-Bass, 1973.
- Cattell, R. B., Eber, H. W., & Tatsuoka, M. *Handbook for the Sixteen Personality Factor Questionnaire (16PF)*. Champaign: IPAT, 1970.
- Karson, S., & O'Dell, J. W. *A guide to the clinical use of the 16PF*. Chicago: Institute for Personality and Ability Testing, 1976.
- Meredith, G. M. Amiae and acculturation among Japanese American college students in Hawaii. *Journal of Social Psychology*, 1966, 70, 171-180.
- Meredith, G. M., & Meredith, C. G. W. Acculturation and personality among Japanese American college students in Hawaii. *Journal of Social Psychology*, 1966, 68, 176-182.

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## The Development and Evaluation of Self-Esteem Measuring Instruments

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*Summary:* It is argued that a major failing with most existing measures of self-esteem is that they do not even attempt to take into account the value system of the individual subject. A relatively straightforward method of measuring self-esteem was proposed based on an aggregate of a subject's self-ratings in different areas of his life weighted by the relative importance of those life areas to the subject. This approach is used to develop a measure of self-esteem for Australian tertiary students. A self-esteem questionnaire was also developed, based on life areas important to other Australian college students. An evaluation of these two instruments is then reported based on 235 Psychology students at Melbourne University. Some implications of this approach to the structure of self-esteem itself are considered.

In this research, attention is focused on a person's evaluative attitude towards himself, that is, his self-esteem. Coopersmith (1967) has provided an excellent analysis of this concept. He used the term "self-esteem" to refer to

The evaluation which the individual makes and customarily maintains with regard to himself: it expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself to be capable, significant, successful, and worthy. In short, self-esteem is a personal judgment of worthiness that is expressed in the attitudes the individual holds towards himself. It is a subjective experience which the individual conveys to others by verbal reports and other overt expressive behavior. (pp. 4-5)

Coopersmith pointed out that there are three aspects of this definition requiring elaboration:

1. It refers to relatively enduring estimates of global self-esteem, not to momentary, situation-specific evaluation.
2. The individual's self-evaluation would probably vary across the different fields of experience he encounters and the various roles he is called upon to assume. Thus an individual may consider himself a hopeless student, a very good cricketer, and an adequate father. "His overall appraisal of his abilities would presumably weight these areas according

to their subjective importance enabling him to arrive at a general level of self-esteem" (p. 6).

3. The term "self-evaluation" is used to refer to a person's judgment of his own worth, based on an examination of his abilities and performances according to his own standards and values.

### *The Role of Subjective Importance in Self-Evaluation*

It is the writer's contention that it is the second feature of Coopersmith's conception of self-esteem that is commonly neglected in the measurement of self-esteem. It would certainly seem plausible that an individual's rating of an aspect of his life he considers to be quite important should contribute more to his global self-esteem than his rating on an area he feels to be less important.

The most relevant research support for this position arose out of a study by Rosen and Ross (1968). These authors hypothesized that "the correlations between scores reflecting satisfaction with the self-concept and satisfaction with the body-image would increase in magnitude as a function of the importance of the attribute being rated" (p.100). To test this hypothesis, their subjects were asked to rate how important they considered, and how satisfied they were with, their position on each item of a self-concept and a body-image scale. Rosen and Ross

found that the correlation between mean satisfaction scores for the self-concept and body-image for items below mean importance, while significant at the 0.05 level, was quite small ( $r = 0.28$ ), whereas the correlation for items above mean importance was  $r = 0.61$ . The results thus confirmed their hypothesis. The authors concluded that

The present study merely dichotomized the importance variable at the mean. A more refined analysis might be possible if scores reflecting an individual's evaluation of aspects relevant to his self and body concepts could be assigned a relative weight reflecting the subjective importance of that aspect to the individual (p. 100).

A method of carrying out such a refined analysis was proposed by the author (Watkins & Park, 1972). It was suggested a subject's self-concept score be calculated from the formula

$$\text{self-concept} = \frac{\sum R_j I_j}{\sum I_j}$$

where  $R_j$  and  $I_j$  are his satisfaction rating and importance rating respectively of aspect  $j$  of his self-concept. His body image score was calculated from a similar formula.

Watkins and Park predicted that such measures would lead to a higher correlation between self-concept and body image than would be obtained by correlating the mean satisfaction scores for all items, for items above mean importance, or for items below mean importance.

The correlations found between body image and self-concept were ( $n = 47$ ) for all items 0.26 ( $p < 0.05$ ), for items above mean importance 0.33 ( $p < 0.05$ ), and for items below mean importance  $-0.11$  (not significant). Thus these correlations although somewhat low, did support the contention of Rosen and Ross that a higher correlation is found when items above mean importance are considered. The correlation between the weighted self-concept and body image scores proposed in their research was much higher predicted,  $r = 0.53$ ,  $p < 0.01$ .

Thus it would appear that this method of measuring the self-concept and body image may more accurately reflect the subject's evaluation of his self and his body. The alternative explanation that a higher correlation was found because of a relationship between importance and self-ratings could be ruled out because, as in the Rosen and Ross study, these ratings were found to be virtually independent.

The obvious implication for the measurement of evaluative self-constructs is that a more precise estimate of the subject's own feelings may be obtained by taking into consideration the importance of each aspect of the construct to the individual subject. This point would seem to have been overlooked by most existing instruments designed in the principal measure of self-esteem developed in this research.

Several studies, based on Kelly's (1955) theory of personal constructs, have investigated the influence of item meaningfulness or importance as irrelevant response determiners in measuring instruments. Kelly's theory centers on the dimensions or personal constructs each individual uses to construe his world. These dimensions are bipolar dichotomous abstractions along which one ascribes meaning to the world. The meaningfulness of a dimension to the individual is inferred by his selection of a response. A highly meaningful construct forces him to select a response alternative whereas a construct which means little to him leads to rather indifferent responses.

Cromwell and Caldwell (1962) showed that more extreme ratings were obtained when subjects described others using their own personal language dimensions rather than the dimensions of others. Landfield and Nawas (1964) confirmed the above finding and also showed that more extreme ratings were given for constructs the subjects considered to be most important. Mitos (1961) examined the extremeness of ratings using scales generated by others rather than including the individual's own dimensions. He found that scales judged as being personally most meaningful were rated more extremely

than other scales. Weigel and Weigel (1969) examined the effect of item meaningfulness as an irrelevant response determinant on self-ideal minus self-concept measurement. They found as predicted that items chosen as being highly meaningful would be more extremely rated than those chosen as being least meaningful. Weigel and Weigel concluded that their results have implications for the use of instruments involving ratings on construct dimensions generated entirely by others. Differences between individual's scores on such tests may reflect not true differences in self-ideal minus self-concept discrepancy but rather differences in the number of items in the test that the individuals find personally meaningful. Thus Weigel and Weigel propose that before individual self-ideal minus self-concept scores can be compared, the meaningfulness of personal constructs included must be equated. Wylie (1968) also recognizes this problem. In discussing difficulties arising from summing self-discrepancies across many items, she points out "Summing implies that each item has equal salience for the subject's self-regard, a most questionable and unsupported assumption" (p.759).

It would seem therefore that the little research done in this area indicates that such things as "the importance," "the meaningfulness," or "the salience" of items included in an instrument designed to measure self-evaluation must be considered before a true indication of a subject's self-esteem can be ascertained.

To try to ensure that the measures of self-esteem to be developed in this research did truly reflect the individual's valuation of those things he himself considers important the main measure was designed as follows:

1. The individual is asked to rate the importance of the various areas of his life.
2. He is then asked to rate himself on each of these areas.
3. His overall self-evaluation can then be calculated as a weighted (in terms of importance) sum of self-ratings on each area.

### *Developments of the Instruments*

The first problem in the development of this main measuring instrument was to decide how to find out what areas of their lives subjects considered important.

Two approaches to this problem were considered. The subject could simply be asked to state what life areas he considered important, to rate their relative importance, and then to rate himself on each. This method has the advantage that the subject is forced to rely largely on his own value system, although social desirability and other such response sets may still influence him. However, it would then be very difficult to analyze the components of self-esteem and the interrelationships between important life areas, self-ratings, and other pertinent variables. It would seem necessary that in order to carry out such analysis, judges would have to be employed to make a content analysis of the life areas and to arrive at a classification of these areas into which each individual's answers could be categorized.

This discussion suggests the approach that actually was adopted in this research. Moore (Note 1), working with Victorian teacher's college students and earlier with US and Canadian college students, set out to find what areas of their lives these students considered important. He in fact, simply asked "What are the seven or eight areas of your life that are most important to you?" After a reanalysis of Moore's data the following 11 life areas were decided upon as being important to the students:

*The social:* relationships with others

*The religious:*

*General future or present happiness:*

*The aesthetic:* beauty, things for their own sake, etc.

*Health:* both physical and mental

*General competence:* activity oriented, mastery, skills, education, etc.

*Leisure:* ability to relax and enjoy sport, hobbies, etc.

*The personal:* establishment of personal identity, morality, responsibility, etc.



*The economic:* career, finance, material things.

*The heterosexual:* love, sex, boy (girl) friend, marriage, etc.

*The family:* relationships with parents, brothers, sisters, etc.

The first measure of self-esteem developed in this research consists of two rating scales. The subject is asked to rate on a five-point (0-4) Likert type scale

(a) the importance of these 11 life areas, and (b) himself on each area. His self-esteem can then be calculated from the formula

$$SE(R) = \frac{\sum_{j=1}^{11} R_j I_j}{\sum_{j=1}^{11} I_j}$$

where  $I_j$  is the subject's rating of the importance of life area  $j$  and  $R_j$  is his self-rating on area  $j$ .  $SE(R)$  is thus intended to be a measure of global self-esteem which takes into consideration the subjective importance to each subject of the areas being rated.

Rating scales such as the above are admittedly rather crude measuring devices. Thus this measure of self-esteem, involving as it does multiplication and division of ratings, can be legitimately criticized because such arithmetic operations require the assumption of ratio measurement. Stevens (1966), amongst others, has questioned even the assumption of interval measurement with such data. However, research by Lorei and Cohen (1971) has suggested (p.24) that, "in the case of Likert type ratings scales of the importance of possible outcomes of releasing psychiatric patients, interval and even ratio measurement was achieved" but this is by no means sufficient evidence to justify mathematically the assumptions involved in  $SE(R)$ .

Subjects could also be asked to give themselves an overall self-rating,  $SE(O)$ , using an 0-4 scale.

A pilot self-esteem questionnaire of 52 items was also prepared using the responses to Moore's question as a guide. The pilot questionnaire was administered to 73 Psychology II students at Melbourne University. Of the 52 items comprising this inventory 13 discriminated significantly ( $p < .05$ ) between subjects who scored in the top and bottom halves of the total test score. After consideration of the results of this item analysis a final self-esteem questionnaire,  $SE(Q)$ , of 18 items was prepared (a revised version of this questionnaire is presented in Table 1).

### Method

Despite the obvious necessity of investigating the reliability and validity of psychological measuring instruments, it seems that all too often this has been neglected. The most frequently used types of instruments for inferring self-referent constructs have been the questionnaire, rating scale, and adjective check list. For two-thirds of some 80 such tests described by Wylie (1968) no published reliability information was available, while for some 80 per cent of these instruments no information was available in published sources concerning their construct validity for inferring the conscious self-concept. A review by Shavelson, Hubner, and Stanton (1976) indicates that the position is little better today. The purpose of this study was to provide some evidence of the reliability and validity of the self-esteem instruments described above.

### Subjects

The above described tests were included in a battery of tests presented to 235 psychology students from Melbourne University. The sample comprised 67 males and 168 females whose average age was 19 years. They had taken an introductory course in psychology but had, at that time, no experience of personality tests and very little of personality theory. The tests were presented as part of the practical course during the normal laboratory sessions by two of their regular instructors. Other variables measured

Table 1  
Revised *SE(Q)*

(1) I am lacking in self-confidence. ....	T	F
(2) I am not really satisfied with my circle of friends. ....	T	F
(3) Intellectually, I am more than adequate. ....	T	F
(4) I am dissatisfied with my abilities in a number of areas. ....	T	F
(5) I am seldom lonely. ....	T	F
(6) I am satisfied with my relationship with the opposite sex. ....	T	F
(7) I am quite satisfied with my social life. ....	T	F
(8) I am satisfied that I have a bright future. ....	T	F
(9) The career I have in mind is the one I really want. ....	T	F
(10) I have never really been in love. ....	T	F
(11) I am dissatisfied with my appearance. ....	T	F
(12) People do not always respect me. ....	T	F
(13) I do not get as much out of life as I should. ....	T	F
(14) I am very happy with the courses I'm doing here. ....	T	F
(15) Taking everything into account, I would rate myself fairly highly. ...	T	F

Table 2  
Test-retest and Internal Consistency Coefficient  $\alpha$  Reliabilities

Tests	Coefficient $\alpha$	Test-retest
<i>SE(Q)</i>	0.64	0.86 (3 weeks)
<i>SE(R)</i>		0.50 (8 weeks)
Heron maladjustment	0.63	0.69 (8 weeks)
Heron unsociability	0.58	0.68 (8 weeks)

which are relevant to this paper were: neuroticism (Heron and Eysenck Personality Inventories); extraversion (Heron and Eysenck Personality Inventories); self-concept, self-discrepancy, self-acceptance, and self-ideal (Bill's Index of Adjustment and Values) and social desirability (Edwards and Marlowe-Crowne Social Desirability Scales).

reliability

The test-retest and internal reliability coefficients of the instruments were in-

vestigated. The results are shown in Table 2.

It would appear, therefore, that *SE(Q)* has a satisfactory test-retest reliability and a somewhat low internal consistency coefficient, while the test-retest reliability of *SE(R)* is disappointingly low (though it just meets Nunnally's 1967, suggested minimum value for the early stages of development of a test).

However, it must be remembered that the reliability coefficients found in this research for both scales of the Heron

Table 3

Correlations Between the Social Desirability Measures  
and Both the Self-esteem and Other Personality Measures

Measures	Edward's S.D.	Marlowe-Crowne S.D.
<i>SE(R)</i>	0.44*	0.14
<i>SE(O)</i>	0.44*	0.10
<i>SE(Q)</i>	0.50*	0.29*
Heron neuroticism	-0.72*	-0.33*
Eysenck neuroticism	-0.73*	-0.39*
Bill's self-discrepancy	-0.58*	-0.32*
Bill's self-concept	0.61*	0.47*
Bill's self-acceptance	0.51*	0.47*
Bill's self-ideal	-0.02	0.14

\* Significant at 1% level.

Inventory are much lower than those reported in the literature for this test (Heron, 1956). This may be due to the restricted range of personality types present in this student sample. Whatever the reason for this reduced reliability the coefficients obtained for the *SE(Q)* compare favorably with those found for the Heron Inventory over a shorter time period but using the same subjects. Moreover, although *SE(R)* has an apparently low test-retest reliability it seems that the actual reliability of *SE(R)* must be much higher than the figure of 0.50 would suggest. This is evident from the magnitude of the correlation between *SE(R)* and other measures such as *SE(O)*, *SE(Q)*, and the neuroticism inventories, e.g., the correlation between *SE(R)* and *SE(O)* was 0.72 while that between *SE(R)* and *SE(Q)* was 0.40. The low test-retest figure may well be due therefore to some instability in the trait of self-esteem rather than to the inaccuracy of the measuring instrument.

It is perhaps fair to conclude that the reliability of the self-esteem measures are sufficient for research purposes — providing their limitations are not forgotten.

### Internal Analysis

Factor analysis of *SE(Q)* indicated that it is not a global measure of self-esteem, rather it may be concerned with two aspects of self-evaluation — evaluation of one's social relationships and evaluation of one's abilities. Item analysis, supported by the item factor analysis indicated that 13 of the 18 items included in the *SE(Q)* were satisfactory. Neither this result nor the proportion of variance accounted for in the factor analysis (19.8%) were very promising but they were similar to the analyses of the Eysenck and Heron Inventory conducted in this research. Using the results of both the item analysis and factor analysis a revised self-esteem questionnaire (see Table 1) was prepared and its reliability and validity are now being investigated.

### Validity

**Social Desirability.** The influence of social desirability response set on responses to the *SE(Q)* was examined first by investigating the relationship between probability of endorsement of items and their social desirability scale values. One hundred and twenty-nine of the subjects

Table 4  
 Varimax Factor Loadings of Social Desirability Measures  
 and Other Variables Used in the Study

Variables	Rotated Factor Loadings		
	I	II	III
Sex	0.34 <sup>a</sup>	-0.21	0.11
Heron maladjustment	0.78 <sup>a</sup>	0.16	0.04
Heron introversion	0.09	0.58 <sup>a</sup>	-0.07
SE(R)	-0.41 <sup>a</sup>	-0.45 <sup>a</sup>	-0.16
SE(O)	-0.34 <sup>a</sup>	-0.55 <sup>a</sup>	-0.11
SE(Q)	-0.53 <sup>a</sup>	-0.25	-0.24
Eysenck extraversion	0.09	-0.57 <sup>a</sup>	0.02
Eysenck neuroticism	0.79 <sup>a</sup>	0.17	-0.03
Eysenck lie scale	-0.47 <sup>a</sup>	-0.30 <sup>a</sup>	0.00
Bill's self-discrepancy	0.68 <sup>a</sup>	0.37 <sup>a</sup>	-0.29
Bill's self-concept	-0.74 <sup>a</sup>	-0.24	-0.45 <sup>a</sup>
Bill's self-acceptance	-0.66 <sup>a</sup>	-0.11	-0.36 <sup>a</sup>
Bill's self-ideal	0.00	0.06	-0.88 <sup>a</sup>
Edwards' social desirability	-0.79 <sup>a</sup>	-0.31 <sup>a</sup>	0.03
Marlowe-Crowne SD	-0.60 <sup>a</sup>	-0.21	-0.14

<sup>a</sup> Factor loadings exceed 0.29.

served as judges of the SD scale values of items, following the instructions of Edwards (1957). The correlation between the SD values and the probability of endorsement of items was found to be 0.73 indicating that social desirability is significantly related to responses to SE(Q).

The influence of social desirability upon the self-esteem measures was also examined by finding the correlation between the SE(R), SE(Q) and both the Edwards and the Marlowe-Crowne Social Desirability Scales. The correlations found in this research between the social desirability measures and the self-esteem, adjustment, and Bill's IAV self-construct

measures are shown in Table 3.

It can be seen from Table 3 that both SD measures correlated significantly with the Heron and Eysenck neuroticism measures, but the correlations were much higher with the Edwards than with the Marlowe-Crowne scale. All the measures, except for the Bill's self-ideal, correlated significantly with the Edward's SDS. However, two of the self-esteem measures, SE(R) and SE(O), were not significantly correlated with the Marlowe-Crowne. In passing it can be noted that the results reported here do not support the claim (Cowen & Tongas, 1959) that the influence of social desirability will be minimal where self-discrepancy measures



(self-discrepancy = self-ideal minus self-concept) are concerned.

The influence of social desirability upon the self-esteem measures was further examined by subjecting the self-esteem measures, the SD scales, scales from the Heron and Eysenck Inventories and the four Bill's self-construct measures to a principal axis factor analysis followed by an orthogonal rotation using the Varimax criteria (Kaiser, 1958). Three eigen values greater than 1.00 were obtained and thus three factors were retained for rotation. The results obtained are set out in Table 4.

The three factors extracted account for 49.6% of the variance. The interpretation of these factors is somewhat unclear, however.

The first factor, which accounts for 30.1% of the variance, could be interpreted as an adjustment factor were it not for the considerable loadings of the Marlowe-Crowne Social Desirability Scale upon it. It is possible to explain the high loading of the Edward's SDS as being due to this scale's reliance on items with pathological implications but the Marlowe-Crowne has been developed to be relatively free of such implications. Thus factor I may be a true social desirability response set factor in the sense of Crowne and Marlowe. The fairly high loading of the Eysenck lie scale on this factor supports this contention. At the very least, it must be acknowledged that this main factor involves a confounding of measures of adjustment and the need to present oneself in a favorable light.

It is important to note that the self-esteem rating type measures,  $SE(R)$  and  $SE(O)$ , load more highly on the second factor than the first. This second factor, accounting for 11.1% of the variance, would seem to concern sociability and self-evaluation. Perhaps we have found here the tendency for self-esteem to break upon into two aspects, one personal (factor I) and the other interpersonal (factor II) — see also analysis of  $SE(Q)$  above. Alternatively  $SE(R)$  and  $SE(O)$  may be composite measures of social self-esteem (factor II) and socially desir-

able self-esteem (factor I), in the sense of Ziller, Hagey, Dell, Smith, and Long (1969).

Factor III, 8.4% of the variance, has high loadings only on the scales of the Bill's IAV and may well be due to some kind of response set unique to that instrument.

This analysis would seem to cast doubt on the Heron and Eysenck neuroticism inventories and the Bill's IAV scales being relatively independent of social desirability response set, rather than on the validity of the self-esteem measures.

Certainly  $SE(Q)$  does seem to be influenced by social desirability but  $SE(O)$  and  $SE(R)$  appear to be relatively free of this influence. Even where  $SE(Q)$  is concerned it appears from the lower correlations obtained (see Table 3) to be less influenced by social desirability than are the neuroticism inventories. This cannot be explained in terms of  $SE(Q)$  possessing lower reliabilities than the other inventories. In any case, a slight relationship would be predicted between self-esteem and social desirability as presumably low self-esteem is a socially undesirable trait.

*Campbell and Fiske criteria.* The precise meaning of the terms "trait" and "method" as used by Campbell and Fiske is not clear but for the purposes of this research, in an attempt to establish the construct validity of the self-esteem measures, the correlations between the following measures of three supposedly different construct were considered:

self-esteem:

1.  $SE(R)$       2.  $SE(O)$       3.  $SE(Q)$

neuroticism:

4. Eysenck (*EN*)      5. Heron (*HN*)

extraversion:

6. Eysenck (*EE*)      7. Heron (*HI*)

$SE(R)$  and  $SE(O)$  were considered to be the "same method" (ratings) while the remaining five questionnaires were also assumed to be the "same method."

Due to the lack of "different method" measures of extraversion and neuroticism it was decided to use a modified form of the Campbell and Fiske criteria. Wylie (1968) has adapted their criteria for use

Table 5  
Multitrait-multimethod Matrix

	1	2	3	4	5	6	7
1							
2	0.72						
3	-0.40	0.33					
4	-0.43	-0.31	-0.44				
5	-0.40	-0.39	-0.46	0.73			
6	-0.15	-0.14	-0.22	0.22	0.22		
7	0.15	0.13	0.05	-0.01	-0.01	-0.59	

 Inter correlations between measures of same trait.

in establishing the construct validity of self-esteem measures. Wylie proposes the following requirements:

The correlations between scores obtained from different methods but claiming to measure the same trait should exceed correlations between scores which are obtained by

1. A given method but which purport to measure different traits.
2. Different methods but which purport to measure different traits.

She also specifies that scores obtained from a given method which purport to measure the same trait should exceed correlations between scores which are obtained by

1. A given method but which purport to index different traits.
2. Different methods and which purports to index different traits.
3. Different methods but which purport to index the same trait.

The correlations actually obtained are set out in Table 5.

From Table 5, it can be seen that the correlations between measures of the same trait were all significantly greater than zero ( $p < .01$ ). Thus convergent validity was achieved.

To satisfy Wylie's requirements regarding same trait-different method measures

would necessitate

1.  $r_{13} > r_{34}, r_{35}, r_{36}, r_{37}$   
 $r_{23} > r_{34}, r_{35}, r_{36}, r_{37}$
2.  $r_{13} > r_{14}, r_{15}, r_{16}, r_{17}$   
 $r_{23} > r_{24}, r_{25}, r_{26}, r_{27}$

From Table 5, it can be seen that these conditions were not satisfied as both  $r_{34}$  and  $r_{35}$  exceed  $r_{13}$  and  $r_{23}$ . Also  $r_{13} < r_{14}$ ,  $r_{13} = r_{15}$ , and  $r_{23} < r_{25}$ . Thus only 9 of the 16 above inequalities are satisfied. It would appear that there was a lack of discriminant validity between the self-esteem and adjustment measures.

To satisfy Wylie's requirements concerning same trait - same method measures would necessitate

1.  $r_{45} > r_{34}, r_{35}, r_{46}, r_{47}, r_{56}, r_{57}$   
 $r_{67} > r_{36}, r_{37}, r_{46}, r_{47}, r_{56}, r_{57}$
2.  $r_{12} > r_{14}, r_{15}, r_{16}, r_{17}$   
 $r_{45} > r_{14}, r_{15}, r_{24}, r_{25}$   
 $r_{67} > r_{16}, r_{17}, r_{26}, r_{27}$
3.  $r_{12} > r_{13}, r_{23}$

It is clear from Table 5 that all these requirements were satisfied. However due to the lack of discrimination between the same trait - different method measures

Table 6

Correlations Between the Self-esteem Measures and  
 (1) the Bill's IAV Self-construct Measures,  
 (2) the Heron and Eysenck Neuroticism Measures and  
 (3) the Heron Introversion and Eysenck Extraversion Scales

The Measures	SE (R)	SE (O)	SE (Q)
Bill's self-concept	0.38*	0.25*	0.52*
Bill's self-acceptance	0.31*	0.37*	0.45*
Bill's self-discrepancy	-0.33*	-0.37*	-0.36*
Bill's self-ideal	0.06	0.30	0.22*
Heron neuroticism	-0.40*	-0.39*	-0.44*
Eysenck neuroticism	-0.43*	-0.31*	-0.44*
Heron introversion	0.15*	0.13	0.05
Eysenck extraversion	-0.15*	-0.14	-0.22*

\* Significant at 5% level.

of self-esteem and adjustment, it must be concluded that the self-esteem measures fail to satisfy that criteria of discriminant validity. One must bear in mind, though, that the reliabilities of these measures are moderate, at best, so non-fulfillment of these fairly precise criteria is not surprising. The influence of social desirability upon the measures could also be a cause of the lack of discriminant validity.

*Hypothesis testing.* Most of the positive evidence concerning the construct validity of self-concept measures comes from this type of evidence — alleged self-concept measures are found to be related to other variables in a manner predicted by self-theory.

In this research the following predictions were tested:

1. A measure of self-esteem should correlate significantly with other evaluative self-construct measures such as the Bill's IAV self-concept, self-acceptance, and self-discrepancy scores. However, a significant correlation would not be expected between self-esteem and Bill's self-

ideal measure — a nonevaluative measure.

2. Most theorists agree that a person of low self-esteem is probably not well adjusted while a person of higher self-esteem is likely to be better adjusted. Thus a measure of self-esteem should correlate significantly with measures of neuroticism.
3. The expected relationship between extraversion and self-esteem is more difficult to predict. Many theorists feel that a person of high self-esteem is more likely to seek social contacts, so perhaps a slight positive relationship between extraversion and self-esteem can be predicted.

From Table 6 it can be seen that all these predictions were satisfied:

1. All the Bill's IAV self-construct measures, except for the self-ideal, did correlate significantly with the self-esteem measures.
2. Both the Heron and Eysenck neuroticism inventories did correlate

significantly with the self-esteem measures.

3. Only a slight relationship was found between the self-esteem and the extraversion measures.

Thus it is clear that the self-esteem measures did satisfy this criterion of construct validity.

### *Conclusions*

It is perhaps reasonable to conclude that the results of the evaluation of the two measures of self-esteem developed in this paper are sufficiently encouraging to justify their continued use, in revised form, in subsequent research with Australian college students. Refinement of the measurement instruments are definitely needed, however.

Yet it is the general approach advocated for the measurement of self-esteem rather than these particular instruments which the writer considers important. Surely there is no area of psychological measurement which should be more concerned with trying to take into account the frame of reference of the individual subject than that of self-referent construct instruments. But with the exception of Kelly's Repertory Grid Technique, a very complex procedure, this has not been the case.

This paper suggests a simple method of developing such instruments for use with the particular population with which the psychologist wishes to work — be it American Blacks, British working class families, or Australian university students. Moreover it allows, to some extent, for individual differences in value systems within that population. All that is required for developing such an instrument relevant to a particular subgroup is to conduct and content analyze a small open-ended survey to find out life areas considered important by a sufficient number of that subgroup. Then a rating scale, such as *SE(R)* weighted for importance, is immediately available. A questionnaire can also be developed from this data.

Of course, instruments developed in this way, based as they are upon a person's conscious evaluation of himself,

are open to the typical criticisms of the phenomenological approach — the neglect of unconscious determinants and problems of defensive responding. The attempt to take into consideration the subjective importance of the life areas for each subject is also phenomenological in outlook but does not go as far as such an approach would require — it would involve the subject's perception of his phenomenal self still further to allow him to choose the life areas he wanted to rate.

This approach to the measurement of self-esteem also has implications for the structure of self-esteem itself. Thus if the proposition that an individual's self-esteem is based on some sort of aggregate of his evaluations of different aspects of his life weighted for importance, were a valid one, then a number of theoretical conclusions would follow. These include:

1. The development of a person's self-esteem would depend both on the development of his value system and on his self-ratings in these areas. As a child grows into adulthood life areas such as "the heterosexual" and "the economic," say, may well increase markedly in significance for him. Thus his self-esteem could change markedly as he gets older depending on how adequate he saw himself in these areas.
2. Change in self-esteem could be achieved either by changing the importance of various areas or by changing the self-rating of these areas. To defend one's level of self-esteem one could devalue the importance of an area in which one were failing or increase the importance of an area in which one were successful.
3. As significant sex differences were found in the ratings of importance of the life areas in this research the validity of adopting the same measure of self-evaluation for men and women must be questioned. Thus there may be sex differences in the structure of self-esteem. This position would support the findings



of Berger (1964) and Jourard (1962) are

value Journal of  
1964 // 116-14

Level, J. W. & Cohen, J. A., comparison of two methods of color measurement. *Perception Journal of Psychology* 1971 64 23-24

[illegible]

Yonkers, N.Y. 10461

(C. M. & R. A. C.) Relationship of  
and Chemical Analysis 1948

Shoreline, R. J., Hubner, J. J., & Stanton, G. C.  
Well-concept Validation of a Conceptual Model  
Review of Landfilling R.

Stevens, S. S. A method for the exact comparison  
of two 1946 / 1 / 1946 / 1 / 1946 / 1 /

\* JOURNAL OF A & S PUBL. CO. L.  
subjective importance as well  
*Australian Journal of Psychology* 19

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Water H. C. The present status of all  
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A Long, N. Wetstream A collection of  
 direct Journal of Consulting and Clinical  
 Psychology, 1969, 37, 64-71

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Research Lect  
The University of New  
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Received May 1, 1977

## P.A. News & Notes

**Update on the Rosenzweig P.E. Study**  
 A new book, *Measuring the Self*, by  
 Sigmund H. Rosenzweig, Ph.D., is  
 now available. This book is a  
 study of the self-concept and its  
 measurement. It is a comprehensive  
 review of the literature on the self-  
 concept and its measurement, and  
 a critical analysis of the various  
 methods used to measure the self-  
 concept.

The book is in parallel sta-  
 tion with the other two versions. The *Book*  
 covers all three forms—Child-  
 Adolescent and Adults—but for  
 the first time it contains a section  
 in which the standardization  
 samples, norms, and illus-  
 trations are applicable to that level  
 of development. The *Book of the Supplement*  
 has appeared concurrently with the *Book*.  
 The other two will follow in the  
 next twelve months.

The International Congress on Alco-  
 holism and Drug Dependence will  
 be held in Amsterdam, The Netherlands,  
 from July 10 to July 15, 1972. The  
 theme of the Congress is "Alcoholism and  
 Drug Dependence: A New Approach".  
 The Congress is organized by the  
 Netherlands Society for the Study of  
 Alcoholism and Drug Dependence.

## ANNOUNCEMENTS

The American Psychiatric Association  
 Institute of Living, Yale University School  
 of Medicine, New Haven, Connecticut, has  
 announced that it will be holding a  
 symposium on "The Self and the Social  
 Environment" on July 10-11, 1972. The  
 symposium will be held at the Yale  
 University School of Medicine, New Haven,  
 Connecticut.

For more information  
 contact:  
 Dr. Sigmund H. Rosenzweig  
 1000 University Avenue, New Haven, CT 06510

## Book Reviews

**Samuel J. Beck.** *The Rorschach Test Exemplified in Classics of Drama and Fiction.* New York: Stratton Intercontinental Medical Book Corporation, 1976, 134 pages, \$14.75.

*Reviewed by Leslie Navran*

*The reviewer is a clinical psychologist (Stanford 1952) who has had a long-term involvement in personality assessment. After 9 years in academe, he is currently an Associate Chief for Psychology at the V. A. Hospital (Brentwood) in Los Angeles, California. In recent years, he has begun to immerse himself in Rorschach literature.*

In this, his latest work, Beck has striven to do two things: first, to make available to clinicians and demonstrate in depth, a teaching technique he has used with his Rorschach students for more than 30 years. Second, to report "fresh understandings" of Rorschach theory and interpretation which have come out of his most recent experience.

The technique is creative in that it relates Rorschach scoring not to the blot-response of individual subjects but to the personality structures of characters portrayed in classic works of literature and drama. Working with the actions or specific statements made by the characters, Beck assigns location, determinant and content scores, and goes on to develop personality configurations from the specifics. It is a polished effort, honed by many years of experience, and the five chapters given to this are models of clarity. Beck has interspersed them among the seven chapters on theory and interpretation, so as to move the reader alternately between his two major foci. I found it most helpful to read the seven theory chapters first and then the five chapters devoted to the fictional characters.

The latter are saturated with examples of the scoring process, and Beck carefully (and at times repetitively) explains the thinking behind the assigned scores. These chapters offer the reader a magnificent exposure to the workings of a superb clinician's mind. They allow Beck to drive home the psychological meanings of the Rorschach scoring symbols which are elaborated in the technical chapters, and he also takes the opportunity to lace them with supplementary clinical observations not cited elsewhere in the book.

Even for someone not trained in Beck's system, such as the reviewer, the book is stimulating and refreshing experience. There are, nonetheless, some relevant criticisms. Caught up as he is in his long identification and experience with the Rorschach, Beck is guilty of reifying it. At one point, he writes

*The Hedda that Ibsen has created is readily discernible through the psychologic x-ray that is Rorschach's test. It breaks the play down into all the dynamics that constitute this woman... In analyzing these psychological processes in Hedda, the test throws into fresh perspective the personality forces colliding in this powerful play (italics mine).*

Clearly, the test does nothing of the sort; it is Beck who merits the credit for the analysis.

In a similar vein, being caught up in exemplifying his system of interpretation, Beck bypasses the fact that the psychological meanings he assigns to the Rorschach symbols are not universally held by other Rorschach system builders and clinicians. Nonetheless, given this caution, he is able to do a convincing "translation" with the meanings he uses.

The book, in summary, is a legacy to Rorschach clinicians done by a giant in the field who is still vigorous, and who is telling us that the literary and dramatic classics can serve us as more than a cultural experience. If we attend to them, Shakespeare, Dostoevski, Ibsen, O'Neill, and Hawthorne are but a few of the many writers and playwrights who have captured psychological insights that can go far to deepen our understanding of others. Score Beck: *W M+ H*, Master.

**J. N. Butcher and P. Pancheri.** *A Handbook of Cross-National MMPI Research.* Minneapolis: University of Minnesota, 1976, 470 pages, \$20.00.

*Reviewed by Charles S. Newmark*

*Charles S. Newmark is Associate Professor and Director of the Clinical Psychology Training Program in the Department of Psychiatry at the University of North Carolina School of Medicine. An ABPP Diplomate in Clinical Psychology, his interests include objective personality assessment and rational-emotive psychotherapy. He is co-author of a book on Short Forms of the MMPI published by D. C. Heath, 1978. He received his PhD from the University of Alabama in 1971.*

The main purpose of this scholarly, inclusive, easy to read but lengthy volume is to explore the problems in and appraise the value of applying the MMPI in several countries where it is being widely used. Also, an attempt is made to survey available cross-cultural research on the generalizability and applicability of the MMPI for psychiatric diagnosis in these countries and to provide statistical and general information on the MMPI compiled by the authors which could facilitate research activities in these countries. For many of the chapters, collaboration with academic or mental health professionals in the various countries occurred, resulting in some repetition as well as some signs of national pride.

The chapters, although of high quality, vary slightly in style and format, often requiring the reader to shift intellectual gears. Some chapters emphasize methodology and psychometric properties, while others focus on results and implications. The introductory chapter focuses on the rationale for collaborative cross-cultural research, numerous methodological and conceptual issues and the incredible array of logistic problems that occurred. The authors emphasize that it is essential to have native psychologists engaged in planning research strategies, guiding the data collection, and participating in all interpretative aspects of the study.

Chapter 2 examines a number of general issues encountered in the translation, standardization, and development of objective personality inventories and presents the specific translation strategies used. While the authors contend that adequate item translation is the key to producing a psychological instrument that has cross-cultural reliability and ensures replicable results in the target population, few examples are presented. The chapter concludes with a discussion of the development and use of the MMPI in the US. Most readers already will be familiar with this readily accessible information. Those not versed in MMPI lore, however, will not find the topic covered sufficiently.

The next two chapters discuss the translation and standardization of the MMPI for Pakistan and Israel. The emphasis is on seeking a psychological rather than a literary equivalent of the original material. These chapters are presented in detail to emphasize how translation problems are dealt with in two different cultural contexts with somewhat different translation tactics. For example, unlike the transliteration technique employed for Pakistan, the Hebrew MMPI is literally translated with as little content change as possible. Data then are presented showing the similarity of MMPI item responses of Israeli and US

normal subjects. The authors demonstrate a keen awareness of the limitations of their investigations.

Chapter 5 presents the results of a large number of empirical studies dealing with MMPI responses of normal subjects from Costa Rica, Italy, Israel, Japan, Mexico, Pakistan, Switzerland and the US. With only slight variation, the factor analytical structure of the MMPI in each national sample is similar. Not surprisingly, the Western national samples are more highly correlated with the US group than with the two non-Western samples from Pakistan and Japan. The data further confirm a high degree of response similarity among different cultures when items containing psychopathological content are examined. Primary differences occur on items measuring religion, interpersonal relations and family relations. Nevertheless, while there is comparability in the internal structure of the MMPI, the validity of traditional interpretation of the scale values has yet to be determined. The authors again are aware of the precariousness of some of their conclusions.

Chapter 6 is devoted to one of the most crucial issues in cross-cultural MMPI research, namely determining the diagnostic validity of the MMPI for psychiatric patients from different cultures. Multivariate statistical analyses are used to compare the MMPI profiles of psychiatric patients from the US, Italy, and Switzerland who received the same diagnosis, even though based on a different nosological system. Normals could be discriminated from psychiatric patients in general as well as from alcoholics, psychopaths, depressives, and schizophrenics in particular. While the results appear promising, it should be noted that clinicians using an MMPI do not arrive at a general diagnosis on the basis of multivariate statistical analyses and thus the results have limited applicability.

Chapter 7 discusses the standardization and clinical use of the MMPI in Italy. Three interesting case studies are presented to show how MMPI profiles and descriptive correlates for US psychiatric patients are similar to the clinical pictures of Italian psychiatric patients. Also, with Italian psychiatric patients, considerable congruity occurred between an MMPI code-type system used in the US and clinical diagnoses by psychiatrists in Italy. These results support the use of the MMPI as an assessment instrument with Italian psychiatric patients. Two related investigations conducted in Italy provide additional evidence of the transcultural generality of the MMPI. The first is a factor-analytic study of a psychiatric female inpatient population



while the second compares Italian- and German-speaking Swiss depressed patients and normal subjects. The problems of reliability and validity of psychiatric diagnosis again surface.

Chapter 8 details the recent development of three MMPI automated interpretation systems available and operational in Europe. The first is an adaptation of the Roche-Fowler system developed in the U.S., the second is a system planned and developed at the Institute of Psychiatry at the University of Rome, while the third system, the Brussels Automated MMPI Interpretive System, still is being developed. A basic understanding of computer interpretation is essential for comprehension of this chapter. Unfortunately, no investigations have demonstrated that the statements in these automated systems correspond to independent assessment of the patient's psychopathology.

Chapter 9 is a poorly organized conglomeration of the development and use of the MMPI in Mexico, Costa Rica, Spain, Japan, Denmark, France, and French-speaking Canada. These contributions vary considerably in their level of sophistication and the quality of the research design employed. Also included is a brief summary of an extensive and landmark study of genetic factors in schizophrenia conducted in England by Gottesman and Shields (1972). For the first time in genetic twin research, objective psychometric data are used to classify the psychiatric status of patients and their relatives.

Chapter 10 provides a postscript which is an excellent erudite and extremely insightful critique and review of this volume while providing much needed integration of the topics discussed. The authors caution that broad usage alone does not justify the worth of an instrument. Rather, test validity is the final measure of the value of the psychological test. Therefore, even if the MMPI has been translated for use in a specific country, it should not be used until the validity has been demonstrated for that population. The authors further emphasize that the usefulness of and interpretations based on the clinical scales must be evaluated and related to the nomological network of clinical psychological concepts in the target country.

A comprehensive international MMPI reference list and an abundance of appendix material, some superfluous, some highly relevant, are presented.

This reviewer wonders whether the enormous amount of time, energy and finances necessary to validate the use of the MMPI in numerous countries could not be spent more judiciously in developing and standardizing a

new objective personality inventory in each different country. Can the authors justify undertaking such an enormous task in view of the excessive criticism which has already deluged this instrument?

This book probably will have only limited readership, namely those interested in cross-cultural research, and should find a greater audience abroad. Even those in the "Multi-Cult" may not find it appealing.

#### Reference

- Gottesman, I. I., & Shields, J. *Schizophrenia and genetics: A twin study vantage point*. New York: Academic Press, 1972.

Neil M. Cheshire. *The Nature of Psychodynamic Interpretation*. New York: John Wiley, 1975, 229 pages, \$15.95.

Reviewed by Richard W. Bloom

*Dr. Bloom is a clinical psychologist in the USAF. He is also an adjunct professor of psychology and practicum supervisor at Eastern New Mexico University where he teaches courses in personality assessment, Freudian dream interpretation, and the politics of psychological services. He has been a clinical psychology intern at the Cleveland VA Hospital, Cleveland, Ohio, and a volunteer counselor at Project Place, Boston, Mass. One primary interest is evaluation of meaning.*

This book descends from a University of Wales doctoral thesis in clinical and philosophical psychology. It primarily attempts to substantiate structuralist model-building rather than hypothetico-deductive, syllogistic derivation as the appropriate, explanatory paradigm for human behavior. This is done by describing hermeneutic approaches in paleography, linguistics, musicology, archaeology, and psychology which are common and heuristic, yet incompatible with the external scientific explanation advanced by Popperian positivism, Skinnerian behaviorism, and Lysenckian objectivism.

The book is divided into three parts. Part one, "Interpretation in Theory and Practice," critically inspects various definitions of "interpretation," the dual nature — explanatory and transformative — of therapeutic interpretation and its categorical, structure-depicting function, the variations between "causation," "expression," "representation," "sign," and "symbol," the nonpropositional potential of therapeutic interpretation, and the contaminations of observational method and perspective.

Part two "Aspects of Understanding and Illumination" features a critique of the hypothetico-deductive paradigm in the context of behavioral explanation, an elucidation of analogies and relational patterns as proper to a scientific model, and a treatment of differing criteria for evidence between naturalist models and hypothetico-deductive syllogisms.

Part three, "The Structural Basis of Transformation," yields a critique of behaviorism implicating atomism, contextual irrelevance, circularity, and specious operationalism. An account of the structuralist model's potential for generating explanatory force and transformative consequences ensues.

The book is less for the professional from a given discipline than one who obtains nourishment and even sustenance from considering the intertwining of various pursuits of knowledge and their underpinnings. It will be rewarding experience for the latter to savor such metaphor, analogue, and general comparison relating criteria of scientific meaning, and these to methodological and explanatory processes from the liberal arts and social sciences. Interdispersed are enlightening, psychological allusions, such as Piaget's approach to cognitive research as an attempt to standardize the subjective situation rather than the stimulus presentation (p. 199). The treatment of introjection versus projection as "deep structure" mechanisms during word association tests is insightfully suggestive to the personality assessor (p. 139).

Also there are caveats for those considering purchasing this book. The book's title is misleading for the nature of psychodynamic interpretation—at least in the depth psychological sense—is treated much less than the state of meaning. As far as psychodynamic and psychological issues are examined, the showing are problematic. (a) "Psychodynamic" refers at times to any "mental state, content, force, etc." (p. 10) at other times to "the state of 'forces'" (p. 15). Only the latter is consistent with the original psychoanalytic usage (Freud, 1917); (b) Cheshire's ascription of propositional status to Rogerian, client-centered therapy lends the technique excessive directiveness. Apparently the means of the intentional communication of client status is equated with the ends of beneficial change (p. 67). In the process, transformative interpretation loses its distinction, "as opposed to suggestion, exhortation, or persuasion" (p. 39); (c) the convergence in results of divergent methods as validation of psychodynamic interpretation is utilized without considering the convergent, theoretical orientations of these methods (p. 73); (d) at times se-

mantics overrides substance as when Sidman's contention that good data are always separable from the purposes for which they were obtained is termed defective. The reader must decide whether Sidman is referring to a philosophical issue which is easily related or to the methodological issue of experimental bias and the statistical issue of independence which are less easily disposed of (p. 128); (e) the transformative efficacy of therapeutic intervention is said to involve the "psychological make-up" of the individual client. That of the therapist is not mentioned (p. 205); (f) there is no mention of the classical Gestalt theorists—especially Wertheimer and Kohler—who have similarly and previously treated many of the cultural analogues in this book.

Overall, however, this book brings the challenge of intricate analysis and the joy of heuristic insight to problems of meaning descending from the polarities of Humean and Kantian thought.

#### References

- Freud, S. *A general introduction to psychoanalysis*. Garden City, N.Y.: Garden City, 1943. (First German edition, 1917.)

Ralph Culp, Jr. *To Be An Invalid: The Illness of Charles Darwin*. Chicago: The University of Chicago Press, 1977. xiv + 295 pages, \$17.50.

#### Reviewed by Jon D. Swartz

Jon D. Swartz (PhD, Texas A&M University) is Associate Professor and Chairman of Psychology and Chairman of Anthropology & Sociology at The University of Texas at the Permian Basin where he teaches "History of Psychology" at the undergraduate level and "Theories and Systems of Behavior" at the graduate level. His more than 200 publications and papers include six books, three of which have been translated into foreign languages. In 1977, he was elected a Fellow of the American Association for the Advancement of Science.

For most of his adult life, Charles Darwin was chronically ill. In his youth, while physically active and according to his own collection, in "excellent health," according to the author of the volume under review, Darwin apparently was susceptible to at least two kinds of ill health: "a tendency to become physically and/or psychologically exhausted" when confronted with unpleasant events (p. 5). From 1833 until his death in 1882, at the age of 73 from "heart failure," he was ill almost constantly, and intensely concerned about a

variety of complaints that could have been of psychological origin: vomiting, palpitations of the heart, headaches, depression, eczema, boils, "dying sensations," etc. Upon this foundation, and after refuting the many previous (but unsatisfying) explanations of Darwin's illness proposed over the years since his death

including, among others, heredity, "suppressed gout," seasickness and other illnesses contracted while on the *Beagle*, psychosis, Chagas' disease, arsenic poisoning, allergy to pigeons, hypoglycemia, and various psychoanalytic explanations of unconscious conflicts (usually involving his father) — the author builds his own theory of the cause of Darwin's chronic illness: the theory of evolution produced in Darwin such powerful anxieties that he became physically ill. Darwin tended to overwork anyway; and this habit, combined with the fear of how shocking this theory would be to his family and to society, provoked his chronic illness.

The author of this appealing and plausible theory, Ralph Colp, Jr. (M.D., Columbia Medical School), a psychiatrist, is Acting Director of the Psychiatric Section, Columbia University Health Service, and has written previously on Darwin (Colp, 1974, 1975, 1976).

Whether or not Colp succeeds in convincing others of his own thesis, this is the most complete account to date regarding Darwin's illness. The author spent 15 years studying Darwin's illness and had access to previously unpublished manuscripts, a medical notebook and Darwin's five-and-a-half year "Diary of Health" (in which he recorded daily his symptoms and treatments between July 1, 1849 and January 16, 1855). Not less than 100 pages of notes and references, more than one-third the entire book, document Colp's research; and 23 pages of appendixes include both *The "Receipts" and "Memoranda" Book* (a medical prescription book of Darwin's physician father, later used by Darwin and his wife for additional medical prescriptions and notes) and "Darwin and the Early Use of Chloroform Anesthesia," Colp's brief account of Darwin's views on chloroform as an anesthetic. Sixteen pages of illustrations add to the volume's documentation.

It must be admitted, of course, that there are other explanations for Darwin's physical problems. Colp himself admits that the definitive work on Darwin's illness must wait until "more is learned about the mind-body interactions, and about Darwin the man" (p. 144). On the other hand, Colp's theory seems to be supported by no less an authority than Darwin himself. In 1859, in a letter to his cousin William Fox, he reported,

I have been extra bad of late, with the old severe vomiting rather often & much distress swimming of the head. My abstract [*The Origin of Species*] is the cause, I believe of the main part of the ills to which my flesh is heir to; but I have only two more chapters & to correct all & then I shall be a comparatively free man (pp. 64-65).

Maybe we ought to take Colp's (and Darwin's) word for it.

#### References

- Colp, R., Jr. Contacts between Karl Marx and Charles Darwin. *Journal of the History of Ideas*, 1974, 35, 329-339.
- Colp, R., Jr. Evolution of Charles Darwin's Thoughts about Death. *Journal of Thanatology*, 1975, 3, 3-4, 191-206.
- Colp, R., Jr. Contacts of Charles Darwin with Edward Aveling and Karl Marx. *Annals of Science*, 1976, 33, 4, 388-394.

Lee Ehrman and Peter A. Parsons. *The Genetics of Behavior*. Sunderland, Mass.: Sinauer Associates, 1976, 390 pages, \$17.50.

#### Reviewed by Rolland S. Parker

Rolland S. Parker, Ph.D., is a psychologist in private practice in New York City. He is a Diplomate in Clinical Psychology of The American Board of Professional Psychology and a Fellow of The Society for Personality Assessment. His research interests include the evolution of human nature.

It is with some sense of regret that the reviewer reports that he found this book to be unnecessarily difficult reading. The topic stressed — the extent to which behavioral variability within and between species is under genetic as well as environmental control — is certainly important to the clinician and any socially oriented person. In fact, the authors credit behavior genetics "with the burial of the nature-nurture controversy in psychology (p. 344)."

I would like to put my criticisms out of the way before discussing the contents, which are well organized and approached from diverse directions. The material is outside the usual experience of the psychologist so that the lack of appropriate definitions, occasional gaps in the index, sometimes unclear tables, all caused frustration to this reader, despite his modest background in the area. Even though the exposition relies upon such familiar techniques as analysis of variance, the additional use of algebraic reasoning in part left this mathematical defective with gaps in his understanding. One example of difficulty is the explication of different places of the theoretical basis for polygenic (multiple genes) heredity and gene-

based upon a single genetic locus. With cross-reference, and with different notation, this required considerable effort to read. A useful account of population genetics can be found in Wilson's encyclopedic work (1975).

The contents of the volume assume a knowledge of basic genetics. There is a good description of gene changes during gamete formation, and the implications for genetic effects on behavior (e.g. Turner, Down, & Klinefelter syndromes). The authors differentiate between single gene-effects, multiple genes, sex linkage (through the X-Chromosome generally), and maternal effects (pre- and postnatal). Special chapters are devoted to *Drosophila* (fruit-flies), rodents, other creatures, and man (continuous and continuous traits), behavior and evolution, and conclusions and future directions. The point is properly stressed repeatedly that the expression of a particular genotype varies with the environment. Furthermore, it is extremely difficult (but essential) to define environment, inasmuch as it frequently varies (particularly in humans) experiences we call learning. Moreover, the genetic variance may be over-estimated or underestimated, depending upon whether there is a positive or negative correlation between genetic and environmental variance (p. 102). Consequently, it is most rash of any of our colleagues to make definite statements concerning genetic contribution to racial differences of intelligence in the present state of knowledge. The length of time necessary for printing led to the use of many by Sir Cyril Burt which has been distorted. Lastly, evidence is produced that genotypes can be produced environmentally, and that genotypes can be eliminated by environmental manipulation.

Since our adaptive traits do have some genetic contribution (although the extent is as yet unclear, Parker, 1977), the investigation of evolution of behavior and of the formation of subgroups is significant. A key theme is "components of fitness," or what contributes to the likelihood that a particular organism will be propagated. Under some circumstances, traits close to the norm (stabilizing selection) contribute; in other cases, extremes resulting from heterozygosity (differences from each parent, or heterosis) are admitted. There are interesting analyses of mating behavior (males and females analyzed separately) as influencing gene transmission. Also, social structure, i.e. sex appeal (intra-sexual) and dominance (intersexual). The evolution of tribal social structure (evolving from linguistic and other socio-cultural fac-

tors) contributing to the restriction of gene flow and consequent divergence between groups was interesting.

Evidence shows that slight morphological differences can be associated with behavioral differences. Not much is yet known concerning the linkage, from enzyme level through hormone level, tissue sensitivity, membrane permeability, and other functions. The summary research of Sheldon is referred to favorably.

The section on future trends repeated the frequent observation that environmental control has created a world in which natural selection no longer eliminates adverse genes nor requires adaptation to stressful environments. However, the argument goes one step further. In an optimal environment, genotypic differences have minimal importance. The physical and social environments are defined in both their static and changing characteristics. However, as man destroys his environment, natural selection will become more important, and differences of fitness will play a role in survival. In this regard, there are studies of crowding reported on rodents. Individuals vary in their tolerance for crowding, and there are genetic differences between emigrants and residents.

This volume would be particularly useful for those who are interested in preparing to teach research in behavioral genetics, because of the variety of mathematical and biological models. It is a suitable reference text for advanced courses in physiological, psychological, and behavioral sciences. The instructor should be prepared to answer questions. Those interested in the evolution of behavior, and heredity-environment interactions, will find it useful. The volume of genetic counselor would do better to use other sources (e.g. Sperber & Fienberg, 1977). As a student of the evolution of behavior, I found it to be an important volume, which, in my opinion, only a fraction would be related to my daily work.

# References

- Parker, R. S. *The Evolution of Human Behavior*. New York: The New York Press, 1977. (This book is a good reference to cover duplication and many other topics.)
- Sperber, M. A. & Fienberg, J. E. *Genetics and Human Behavior: A Practical Approach*. New York: Wiley, 1977.
- Wilson, E. O. *Sociobiology*. Cambridge, MA: The Belknap Press of Harvard University Press, 1975.

Melanie Klein. *Love, Guilt and Reparation*. New York: Dell, 1975. vi + 368 pages, \$4.95 (paperback).



Reviewed by Leslie S. Groh

Leslie S. Groh received his BA and MA degrees from the School of Psychology at the University of Melbourne, and his PhD from Indiana University. During the first seven years of his psychological work the main area was child psychotherapy with a strong Kleinian influence. At present he is in private practice in Los Angeles, doing psychotherapy with severely disturbed adults.

The volume reviewed here is a republication of Melanie Klein's *Contributions to Psycho-Analysis 1921-1945*, plus two other papers, from one of which the present volume derives its title.

Melanie Klein was one of the pioneers of psychoanalysis. She was the first analyst to develop a consistent technique for the psychoanalytic treatment of children. This technique is based on Freud's, but instead of free association it uses play fantasy, the symbolism of which is directly interpreted. Melanie Klein also interpreted transference reactions and the patient's object relations from the very first session on, and she emphasized the importance of transference interpretations more than other analysts. Clinical examples given in the papers contained in this volume give an excellent idea of how these technical innovations work in practice.

Another area where Melanie Klein had a pioneering role is the treatment of the psychoses in both children and adults, which led her to introduce some new theoretical concepts. In one paper, which is largely based on the treatment of a four-year-old psychotic child, she concludes that primary process thinking is not the earliest and most primitive form of conceptual organization, rather it is the outcome of considerable mental development, for this child exhibited mainly sensory-motor automatisms. In another paper she introduces the idea that sadistic impulses of an extreme intensity dominate the earliest stages of development, and conflicts over these and the person's attempt to control them is an important factor in the functional psychoses. Another emphasis is on the importance of introjection and projection in early ego development, together with splitting of both the ego and its object and the denial of psychic reality. These concepts have a practical importance, for consistent interpretation of primitive defences are called for in the treatment of psychoses. Some of the material adumbrates her division of the early stages of development into the paranoid and depressive positions.

Melanie Klein's work has been controversial from the start. Inviting disturbed chil-

dren to freely express themselves has been seen as dangerous. Her introduction of new concepts, some of which were presented above, has been seen as deviating too far from orthodox psychoanalytic theory. Her unadorned description of man's innate destructiveness has been seen by some as antisocial. Her speculation that the highly sadistic coloring of oedipal material obtained from severely disturbed patients indicates that the oedipus complex starts during the oral phase has been seen as poor theorizing. All pioneers attract criticism, and a person like Melanie Klein who cared little about the social sensibilities of her colleagues, will get more than her share of criticism. What is in favor of her work is that she was one of the great observers of psychological science and, as admitted even by one of her severest critics, she developed a system which is exceptionally successful in treating those who need most help, i.e. the very sick.

This volume is not easy reading for Klein did not have Freud's literary talent, and because she appears to be struggling with communicating ideas which were very new when these papers were written. At some places her ideas are so condensed that paragraphs may have to be reread several times before their meaning sinks in. Some of the concepts expounded were superseded by her later work and so they are of little use. All the same this book is a "must" for those who are seriously involved in the treatment of the psychoses and the borderline states, and this is the best recommendation that can be made.

Muriel D. Lezak. *Neurological Assessment*. New York: Oxford University Press, 1976, XVII and 549 pages, \$16.95.

Reviewed by Max R. Reed, PhD

Max Reed holds a Doctorate from Washington University of St. Louis. He has published research on the Bender-Gestalt Test and has long been involved in Neuropsychological Assessment. He is in private practice in Portland, Oregon, and Associate Professor on the staff of Portland State University, Department of Psychology, and has an ABPP Diploma in clinical psychology.

This is an extensive, excellent book in the field of neuropsychology, containing a monumental list of tests employed in assessment of central nervous system functioning. Of the 17 chapters, this reviewer sees the first seven chapters as the most valuable.

Chapter 1 defines the practice of neuropsychology. Chapter 2 covers basic concepts and

Chapter 3 presents an excellent introductory neuroanatomy and treatment of brain-behavioral relationships. Chapter 4 gives a rationale for deficit measurement. Chapter 5 discusses the general procedures employed in neuropsychological examination, and Chapter 6 considers interpretation of test findings. Chapter 7 is an excellent discussion of diagnostic issues.

The first seven chapters provide a context within which to consider the next eight chapters. These chapters discuss the assessment of a wide range of brain-directed activities and functions. These include in order of presentation: intellectual ability; verbal functions; perceptual functions; visuopractic functions and manual dexterity; memory; cognitive functions; orientation, attention, and self-regulation.

The last two chapters discuss a variety of tests involved in assessment procedures. Chapter sixteen is titled, Batteries and Composite Tests for Brain Damage, and Chapter seventeen, Tests of Personal and Social Adjustment.

In a text with such extensive coverage however, it is surprising to find no references to the four-volume work, *Brain and Behavior* (Pribram, 1969). The author also failed to include a reference to a research article, *Simulation of Brain Damage on the Bender-Gestalt Test by College Subjects* (Bruhn & Reed, 1975). However, there is little to criticize in this work as an overall introduction to neuropsychology. It is an excellent text for graduate students and new practitioners, and a good reference work for the more experienced clinician.

#### References

- Bruhn, A. R., & Reed, M. R. Simulation of brain damage on the Bender-Gestalt Test by college subjects. *Journal of Personality Assessment*, 1975, 39, 244-255.
- Pribram, K. H., (Ed.) *Brain and Behavior* (4 Vol.). Baltimore: Penguin Books, 1969.

**Michael Lewis and Leonard Rosenblum (Eds.).** *Friendship and Peer Relations*. New York: John Wiley, 1975, 320 pages.

*Reviewed by David Ellingson*

Dr. Ellingson is an assistant professor of educational psychology at Indiana University. He teaches course work in affective development and personality.

*Friendship and Peer Relations* is the fourth volume in the Origins of Behavior Series edited by Michael Lewis and Leonard Rosenblum. This series has emphasized the roles of interaction and reciprocity in social dyads and networks as they affect development. The emphasis has been predominately, though not exclusively, on the first two years of life. This volume focuses on the potential positive and negative influences of peers in infancy and toddlerhood. The book contains ten major and two short papers presented in 1974 to a conference sponsored by Educational Testing Service. The major areas of coverage include three theory-research summary papers, four infant-toddler research studies and three comparative animal/anthropological papers. Two short general issues/research-needs papers complete the book.

In their introduction, Lewis and Rosenblum point out that this area received some attention in the 1930s, but until recently peer relationships and friendships had received scant attention. They suggest the neglect stems from over emphasis on the mother-child relationship and conceptualizations of infants and toddlers as being so egocentric that peer relations could be made equivalent to all other object relations. Lewis and Rosenblum define peer relationships as one aspect of a total social network where peers are "at comparable levels of complexity" (p. 5). They also raise questions which emerge from the animal literature and anecdotal observations of children around the potential necessity for early peer relations for fostering social development and also theoretical implications underlying peer tutoring, cross-aged educational grouping, and peer counseling.

By and large, the papers in this volume are primarily concerned with peer relations. The exception is Hartup's on the origins of friendship. He is primarily concerned with components and parameters of friendship. He addresses topics including friendship and amount and quality of social interaction, separation from friends and the language of friendship.

Lee, in another theoretical paper, discusses the importance of peers in his cognitive theory of interpersonal development. Moving out from a Piagetian framework of the individual into a social framework, Lee has the child constructing schemes that have intellectual, operative, and enactive components in assimilation-accommodation paradigms that eventually involve decentration. The importance of role-playing with peers is emphasized.

Bates, in a well-detailed, well-organized paper examines peer influences on the acquisition of language. She details theory and re-

The first part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) for large values of  $t$ . It is shown that the solutions of the system (1) tend to zero as  $t \rightarrow \infty$  if and only if the matrix  $A$  is stable. The second part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) for small values of  $t$ . It is shown that the solutions of the system (1) tend to zero as  $t \rightarrow 0$  if and only if the matrix  $A$  is stable.

of social contacts, simple and complete contingency

desirable (or not) and the content of the different social classes of the different nations. The main present alternative is on the basis of social development of the nations.

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For the young of our own species, the question of how much experience of press attained at what ages and under what conditions may be facilitative and when perhaps detrimental for the development is an issue that deserves to receive our central and sustained concern in 1951.

professionals in child development will want to have read. It would also make an excellent focal text for a graduate seminar.

**Michael P. Maloney and Michael P. Ward** *Psychology of the Criminal Mind*  
*The Criminal Mind: A Psychological Approach*  
 Third Edition  
 \$14.00

Reviewed by Paul McKenryolds

Paul M. Reynolds, who is on the faculty of the University of Nevada, Reno, is the editor of the *Journal of Management Education*.

This is a solid and somewhat innovative book. It has some limiting features, with the format of the chapters and the lack of a supplementary text in graduate classes in assessment. However, the book is a solid and innovative contribution to the field of assessment in clinical practice, and will be a valuable resource for students and researchers in assessment techniques in research.

We are turning to the book in greater detail, let me offer a little background. I began my professional career as a newspaper reporter, and I think much of the thinking and writing that I did then is reflected in *Unsettled*. In those days, I did not know that I was writing for a particular audience, and I wrote as I spoke. I was not concerned with being "correct" or "balanced" or "objective." I was just trying to tell the story as I saw it. I was not a professional writer, and I was not a professional journalist. I was just a person who wanted to tell the story. I was not a professional writer, and I was not a professional journalist. I was just a person who wanted to tell the story.

de-emphasized assessment in their training, and not a few clinicians prided themselves on their lack of assessment skills. Such an orientation has always seemed to me to be notable, not to say paradoxical. Fortunately,

patients or clients is the goal served by clinical assessment. This book is one of the manifestations of change that I have noted, and one gathers that the authors themselves have shifted from earlier somewhat skeptical view of assessment to a more positive one. Thus, they say in Preface (p. vii) that they are "a strong academic-scientific attitude" further, that "for many adherents to

logical tests were often found to be decision making process. The contrast between the academic scientific perspective on tests and clinical utility thus forced the authors to re-

will appeal strongly to those clinicians who are basically desirous of placing greater reliance on assessment techniques, but clinicians who have routinely and com-

psychological assessment should not be limited to the use of they hold.

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tests" in question 2, p. 126. 1973 as described these basic steps in the underlying fairness of such procedures. The authors do conclude however with pronounced recognition is suggested by their use of the phrase "in which

p. 91

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about this book, my overall view is quite positive. It was obviously written with great care, and reflects a carefully thought through philosophy of clinical assessment. Some of the discussions — particularly, I thought, that of the assessment of mental retardation — are outstanding. On the other hand, the work hardly represents the major reconceptualization of assessment that the authors apparently conceive it to. In my view, the book can serve a useful function in multi-text graduate classes in clinical assessment.

#### References

- Cronbach, L. J., & Gleser, G. C. *Psychological tests and personal decisions* (2nd ed.). Urbana, IL: University of Illinois Press, 1965.
- McReynolds, P. Introduction to P. McReynolds (Ed.), *Advances in psychological assessment*, Vol. 3. Palo Alto: Science and Behavior Books, 1971, 1-13.

**Charles L. Newman and Barbara R. Price.** *Jails and Drug Treatment*. Beverly Hills, CA: Sage, 1977, 224 pages, cloth, \$11.00, paper, \$6.00.

*Reviewed by Robert J. Craig*

*The reviewer is Director of the Drug Dependence Treatment Center, West Side VA Hospital, Chicago and is on the faculties of the University of Illinois at the Medical Center and the Illinois School of Professional Psychology. He serves as Consulting Editor to this Journal and has reviewed several books for us.*

This book attempts to present "an accurate description of the resources used by jails for the treatment of drug abusers in order to help jail administrators, correctional policy makers and elected officials choose from existing strategies or design and implement new drug treatment and rehabilitation services" (p. 11). The report is based on a research grant in which the authors identified 1,028 jails in the United States that claim to be providing some type of service to drug abusers. Conducted in 1974, the report is based on statistical data, interviews with jail administrators and service providers in large, medium and small facilities holding drug abusing populations. Jails were defined as facilities operated "for the detention or correction of adults accused or convicted of a crime, and with authority to detain longer than 48 hours." Chapters include Organization Arrangements for Service Delivery Systems in Jail, Developing Service Delivery Capability in Jails, A Demo-

graphic Overview of Jails with Services for Drug Abusing Inmates, Intake Screening, Meeting Inmate Treatment Needs, Special Services, Psychological Services Dealing with Inmates Personal Problems, and a Postscript, followed by an Appendix detailing the survey methodology.

This book reads very much like a government report. It is replete with facts, voluminous interpretations culled from the 80 tables included in this text. Outside of the government reporting style, it does present the state of the art in providing services to drug abusers while in jail. Perhaps the reader would be most interested in the range of psychological services offered to jailed inmates.

The authors found that psychological treatment services are the least common services offered to inmates. Most often these services involve rap groups conducted once or twice a week by a "counselor". Less than 10% of all jails surveyed offer therapy, and the selection of clients for psychological services is based more on the jails operational policies than on verified need. The reasons for the lack of psychological services include "limited jail budgets, high population turnover, lack of demonstrated effectiveness or competent staff, the lengthy nature of psychological assistance [sic], the jail setting itself, official reluctance to do 'anything' with or for detainees, and probably most significantly, the lack of acceptance by jail staff of a rehabilitation orientation" (p. 162).

Can drug abuse be treated in jail? That depends on the definition of "treatment." Introduction of drug related treatment in the jails was associated with either less (44%) disruptive behavior or no change (54%) in the amount of disruptive behavior by inmates in the jail. Less than 4% indicated that inmate violence was worse as a consequence of treatment. This provides some documented evidence that psychological services within a jail (not prison) population can provide a reduction in disruptive behavior in the jail and may have other desired transfer effects unresearched by these authors as well.

Another concept of treatment besides a direct clinical approach, is a community mental health orientation. From this perspective, jails provide a link in the network of services and changes within the jail structure and resource delivery components can be beneficial on client outcome. Continued links with community agencies, access to the jails by community, and referrals and planning conferences for post release arrangements then become part of the "treatment". Our own program maintains an outreach staff that continue our relationship with the client if he is

temporarily in jail. We have delivered metha- done to our clients in jail while arrangements were being made for jail staff to work through administrative bureaucracy to provide this service themselves. We have also gone to jails and counseled our patients as well as provided legal assistance for them. In this way, the concept of "institutional transference" discussed by Dr. Senay and his colleagues at the University of Chicago, is operationalized by maintaining the trust and level of affiliation between clinic and client. The client is thus conceptualized as being in another part of the service delivery component system rather than being extruded from the rehabilitation process.

This book is addressed to the following audiences:

Those charged with establishing policy and monitoring drug treatment programs at the federal, state, regional or local levels; those responsible for implementing some form of drug treatment program in a local jail; and those students of local jails who are interested in expanding their understanding of correctional strategies appropriate to the local facility.

In this reviewer's opinion, the book provides a valuable secondary resource to programs in community mental health, programs on criminal justice and correctional programs, and courses in drug abuse per se.

The book provides the state of the art concerning drug treatment and services to drug abusers while in jail. A member of Congress recently requested several million dollars to develop a census of the horse population in his state. The authors of *Jails and Drug Treatment* have done their job well. We now know what is (not) being done for jailed drug abusers. The question now becomes: What will we do with this knowledge? Surely drug abusers are more important than horses. Or are they?

**Robert Rosenthal.** *Experimenter Effects in Behavioral Research, Expanded Edition.* New York: Irvington Publishers, 1976, 500 pages, \$15.95, hard cover.

*Reviewed by Steven J. Kingsbury*

Steven J. Kingsbury, assistant professor of psychology at Northern Illinois University, received his PhD in clinical psychology at the University of Miami (Florida) in 1976. His interests include the effects of expectancy on a variety of interactions and the effects of evaluation apprehension upon experimental subjects and test recipients.

Before proceeding with a review of this enlarged edition, the nature of the enlargement

should be made clear. Appended to the text and references of the original (1966) edition are an additional 28 pages of text with a short reference section. Aside from this addition, the book is exactly the same book which was published ten years previous to this edition. Even in the main reference section, articles which were in press for 1966 are still listed as being in press. Typographical errors in the 1966 edition are even the same as in the new printing.

The earlier published, major portion of this book was deservedly a highly influential, widely read book. In a very readable style, Rosenthal demonstrated the many ways in which the results of experiments could be confounded. Primarily in the first of the three major sections of this book, Rosenthal sampled the many ways that errors may creep into the experimental process, from intentional error to expectancy effects. The first section serves as an impressive, well organized, and highly readable overview of the area, circa 1966.

The second section deals more specifically with the research program concerning experimenter expectancy effects carried out by Rosenthal and his colleagues. Since both detailed criticisms of many of these studies and a rebuttal by Rosenthal have been published (Barber, 1976; Barber & Silver, 1968a, 1968b; Rosenthal, 1968), perhaps it would be best to state that this second section at a minimum provides a nice model of how a scientist mounts a research program to dissect a problem.

The value of the third section, on methodological implications, depends in part, as Rosenthal himself noted, upon how convinced the reader is of the existence and importance of expectancy effects. Certain of Rosenthal's suggestions such as using taped or written instructions and trying to maintain blind contact are fairly easily implemented, and it would seem that such controls are more commonly used since the original publication of this work. Other suggestions, such as the creation of an independent profession of experimenters, seem as unlikely to be implemented now as when they were first proposed.

The expansion, which is called a "follow-up," is primarily an elaborate statistical summary of all the studies on experimenter expectancy (311) which Rosenthal was able to find. This section reads like a defense of the importance of the area of experimenter effects, with a special section defending his findings on the effects of teachers' expectancies, often called the Pygmalion effect. As mentioned above, there have been elaborate criticisms of Rosenthal's work, and such an overall

demonstration that expectancy effects have been reliably demonstrated is needed. Unfortunately, while this demonstration does seem to show the ubiquity of such effects, it appears to make these effects seem less powerful and less in need for assessment. For example, Rosenthal has asserted that approximately a third of these 311 studies showed significant effects instead of the five per cent that would be expected by chance. Still about two-thirds of the studies did not reach significance, although presumably designed to show these expectancy effects. Similarly, Rosenthal has presented the finding that only a third of the experimenters and subjects showed results in the direction opposite to their expectancy while chance would dictate that half would be in the nonexpected direction. Perhaps there is less need than Rosenthal would suggest to perform the elaborate controls he has devised.

Still, all in all, although somewhat dated, there is much of continuing value for those interested in social psychology or even more generally in the experimental process. Rosenthal has insightfully analyzed the experimental situation, and from this analysis, he has derived quite a number of useful suggestions for improving research. This was, and still is, an important book, which merits careful reading.

#### References

- Barber, T. X. *Pitfalls in human research: Ten pivotal points*. New York: Pergamon, 1976.
- Barber, T. X., & Silver, M. J. Fact, fiction, and the experimenter bias effect. *Psychological Bulletin* (Monograph Supplement), 1968, 70, 1-29. (a)
- Barber, T. X., & Silver, M. J. Pitfalls in data analysis and interpretation: A reply to Rosenthal. *Psychological Bulletin* (Monograph Supplement), 1968, 70, 48-62. (b)
- Rosenthal, R. Experimenter expectancy and the reassuring nature of the null hypothesis decision procedure. *Psychological Bulletin* (Monograph Supplement), 1968, 70, 30-47.

**Boris Semeonoff.** *Projective Techniques*. New York: John Wiley, 1976, 336 pages, \$21.95 (cloth); \$10.95 (paper).

*Reviewed by Ray A. Craddick*

Dr. Craddick received his PhD from Washington University in 1960. He is a diplomate in Clinical Psychology and presently is professor of Psychology and Director of Clinical Training at Georgia State University. He has taught projective techniques since 1960, is president of the International Society for the Study of Symbols and co-editor of the International Journal of Symbolology.

Boris Semeonoff is a past president of the British Psychological Society and has been editor of the *British Journal of Psychology*. He presents, from the British viewpoint and from a basis of over 30 years experience, with the Rorschach and TAT, an excellent review of many current and not-so-current projective techniques. His stated aim in writing this book "has been to elucidate the projective hypothesis by means of reference to what actually goes on in the projective test situation" (Semeonoff, 1976, p. 2).

This book deals briefly with the definitions of projective techniques, followed by a short chapter dealing historically with projective psychology and testing in which he presents his own classification of projective techniques under these headings: Stimulus (verbal, visual, concrete, and other modalities); Response (association, interpretation, manipulation, choice); and Intention (description, diagnosis, therapy).

The next section deals with the Rorschach, and three chapters are devoted to the administration, scoring, interpretation and various derivatives of that test. Other chapters deal with the TAT and with derivatives of that test.

Another portion of the text is devoted to presenting tests measuring family attitudes and person perception, followed by a chapter on expressive and manipulator techniques, including the DAP, HTP, MAPS, and other kinds of drawing tests, and the Lowenfeld Mosaic Test and its variants. Personality and cognitive tests are also presented, and include the Vigotsky tests, the Object Sorting test and the Shaw test. Mention is made of the WAIS and Stanford-Binet, but they are considered outside the scope of this book. There is an excellent chapter about the projective use of color in which the Luscher Color, the Color Pyramid and the Multi-Dimensional Drawings tests are given very good coverage.

As with other texts dealing with projective techniques, Semeonoff also includes a chapter on miscellaneous techniques, in which he includes the Group Personality Projective Test and the Kahn Test of Symbol Arrangement. He ends his book on a note of optimism for the future of projective techniques.

This book is the most recent and best review of projective techniques that I have encountered. Although Semeonoff considers it most useful to the undergraduate, I believe that graduate students and many instructors will benefit from reading *Projective Techniques*. The Rorschach, TAT Object Relations Test and the Lowenfeld Mosaic Tests are presented in more depth than is the case with most other review texts, yet they are presented in a lucid,



readable and enjoyable style. His subtle humor added delightfulness to the book.

The text is current, i.e. he is aware of Exner's Comprehensive System. However, he does not include Bellak's recent work on the TAT, CAT and SAT, nor does he refer to the two reviews of the KTSA. Familiarity with these reviews could aid in his understanding of the KTSA (perhaps even whetting his interest enough to take and administer the test).

I highly recommend Semeonoff's *Projective Techniques* to undergraduates, graduates and instructors. It is a splendid review of new and old projective techniques, presented in an integrated manner through the perspective of one person (in contradistinction to Rabin who presents various tests by different authors). This is a scholarly, provocative, insightful, and enjoyable book.

**Hans Toch.** *Men In Crisis*. Chicago: Aldine, 1975, 340 pages.

Reviewed by Gary M. Wood  
and Gary R. Vandenbos

Gary M. Wood is the substance abuse counselor at the Livingston County Jail. He is the training coordinator of The Listening Ear of East Lansing, Inc. and has been involved in Crisis Intervention work for the past five years. Also Mr. Wood has served as a trainer and consultant in communication skills for S.T.R.I.D.E. and C.R.E.T.C.A.

Gary R. Vandenbos, PhD is the director of the Howell-Area Mental Health Center and Psychological Consultant to the Livingston County Jail. He has been doing psychotherapy with incarcerated criminal offenders for three years. He has co-authored, with Bertram Karon of Michigan State University, nine articles on the psychotherapy of schizophrenics and the effectiveness of such treatment.

In *Men In Crisis* Hans Toch examines the crisis of incarceration, the typical interpersonal and intrapsychic stresses generated, and identifiable patterns of coping (including the so-called maladaptive strategy of self-injury). Over 600 interviews were conducted with both self-injuring inmates and nonself-injuring inmates. Empirical data is presented on the likelihood of self-injury by age, sex, marital status, race, previous drug use, previous violent behavior, and type of penal setting. The majority of the book is presented in the format of the researchers' conceptualization of the inmates' crisis experience and the process of coping, followed by concrete illustrations of the inmates' experience.

The book is presented in four parts. In part one, Toch discusses three varieties of "human

breakdown" during incarceration: situational adjustment, "self-evaluation" judgments, and impulse management. In part two, he presents the empirical data and three detailed analyses: type of penal setting, cultural background, and gender differences. In part three, four psychological autopsies are presented restructuring the final stages of breakdown. In part four, some feasible and practical ways of modifying penal settings to reduce the incidents of self-injury are presented.

*Men In Crisis* is a massive and extensive undertaking. It represents a major contribution to the understanding of inmate experience, it adds to the clinical knowledge needed for meaningful treatment in penal systems, and provides both empirical and experiential data for effective prison management. Its unique feature is its vivid illustration, both conceptually and experientially, of the environmental and psychological stress experienced by incarcerated individuals. This format gives the reader an opportunity to explore the "raw human data" from which the author's conclusions are drawn as well as get a real "feel" of the stress of incarceration.

This book's exploration of the impact of systems upon individuals and the unique reaction of specific individuals to the system has major implications for prison management and psychological treatment. Hence, there are two reader groups who would find this book most specifically useful. The first group is those individuals involved in the planning, policy setting, and administration, of penal institutions. The second group is the beginning helping professional who is working with or may work with incarcerated populations. This book is *real* social psychology. It illustrates how the same behavior in the same situation but in different people has different meanings and hence needs to be handled in different manners and can be prevented in different ways. It demonstrates how bureaucratic "insight" could lead to bureaucratic "behavior change."

**Burton L. White.** *The First Three Years of Life*. Englewood Cliffs, N.J.: Prentice-Hall, 1975, 285 pages, \$10.

Reviewed by Jules C. Abrams

Jules C. Abrams is Professor and Director of Graduate Education in Psychology in the Department of Mental Health Sciences at the Hahnemann Medical College and Hospital. He is also Adjunct Professor of Learning Disorders at The Johns Hopkins University in Baltimore, Maryland. A psychoanalytically oriented psychotherapist, Abrams has always been especially interested in child develop-



ment and learning disorders and has over 60 publications, primarily in this area. He received his PhD from Temple University. He is a Fellow of the Clinical Division of the American Psychological Association, a Diplomate in Clinical Psychology and a member of the Association for Child Psychoanalysis.

In all fairness to the author of this book, this reviewer must confess to a feeling of negativity brought on by what the reviewer at least must perceive as the unconscionable arrogance of Dr. White. It is difficult, frankly, to be completely objective when one feels so annoyed by the rigidly authoritative nature of the text. Let me hasten to say that this feeling is not effected because of a basic difference in professional orientation. Indeed I agree with most of White's arguments. Despite the feelings that the tone of the book elicits, one can not simply dismiss it on this basis. It is clear, even within these limitations, that White has made a significant contribution to our understanding of the vicissitudes of early child development.

One might find an excuse for the style of White's writing in that he clearly states that he has written the book primarily for parents.

Unfortunately, adequate preparation and assistance for parenthood is not currently available for most families. This book is intended to offer up-to-date information about how you can help your child acquire a solid foundation for full development. I will try to explain what you can do during those very important first 36 months to ensure that your child will develop the full range of social and intellectual skills that now appear to be necessary for good subsequent development. (XI)

If the book were strictly for parents, perhaps White could be excused for some of his excesses (or omissions). But he does at times refer to professionals in the field, while ignoring other individuals who have made significant contributions. For example, while he pays homage to Piaget, he completely ignores David Rapaport's propositions concerning intelligence (which, indeed, many years previous, said essentially what White is saying today; i.e. the earliest environment of the child has a much greater impact on the development of intelligence than later formal schooling.).

White also provides little credit to numerous individuals who have studied extensively child development during the first five years of life. In his preface, he states: "what follows does come from a unique source: the most sustained (and expensive) scientific study of

the rule of experience in the development of human abilities in the first years of life conducted to date." (XIII) Perhaps so, perhaps not! But how one can make such a statement without referring to the extensive studies of Margaret Mahler on separation-individuation is beyond comprehension! Maybe White has a thing about child psychoanalysts, but again how can he possibly ignore Anna Freud and her studies leading to a developmental index?

White does do an excellent job in describing the way behavior develops in the child in the first three years of life. He informs the parent what might be expected at different stages of life in such areas as intelligence, emotionality, motor and sensorimotor skills, sociability, language, etc. A very useful section at each stage is recommended child rearing practices.

As noted earlier, I recommend that you handle your new infant frequently, and that you respond promptly to his cries as often as you can. You should also get into the habit of checking to see whether there is any obvious reason for the distress, but do not be surprised if you cannot always find one. Take care to look for underlying causes of distress routinely and to check with a professional if the symptoms are persistent or very severe. (p. 26)

Perhaps an even more useful contribution is the section at each stage on "some child-rearing practices I do not recommend." These are especially helpful to parents today who are constantly being besieged by entrepreneurs who offer the panacea for all problems through a wide variety of "educational" materials. White very effectively deals with these simplistic solutions as well as critically analyzing a number of child-rearing practices which have become very popular without any real scientific support. If nothing else, all parents would benefit greatly from reading these very insightful sections.

I guess I am very ambivalent about this book. I agree with so much of what White has said that I cannot be very critical. I applaud him for writing so clearly about an area which in some circles is sadly neglected (e.g. many of the new texts on learning disabilities say nothing about child development). White should also be praised for the contribution he has made to parents who all too often are confused and uncertain about their role in helping the very young child. I just wish he had been a bit less arrogant, more to the point, and had been more generous to those who have provided a foundation for most of what he says.

## Books Available For Review

**Write to Book Review Editor: Dr. Max R. Reed, 6201 S.W. Capitol Highway, Portland, Oregon 97201.**

Stephen A. Appelbaum. *The Anatomy of Change*. New York: Plenum Press, 1977. 308 pages, \$24.50.

Eugene L. Arnold. *Helping Parents Help Their Children*. New York: Brunner/Mazel, Inc., 1978. 420 pages, \$17.50.

David P. Ausubel and Daniel Kirk. *Ego Psychology and Mental Disorder*. New York: Grune and Stratton, Medical and Scientific Publishers, 1977. \$19.50.

D. Bannister (Editor). *New Perspectives in Personal Construct Theory*. London: Academic Press Inc., 1977. 355 pages, \$21.75.

Thomas Blass. *Personality Variables in Social Behavior*. New York: Halsted, 1977. 405 pages, \$19.95.

Karen Bolander. *Assessing Personality Through Tree Drawings*. New York: Basic Books, 1977. 421 pages, \$20.00.

John Bowlby. *Attachment*. New York: Basic Books, 1977. 428 pages, \$4.95.

John Bowlby. *Separation: Anxiety and Anger*. New York: Basic Books, 1977. 456 pages, \$4.95.

Elaine M. Brody. *Long-Term Care of Older People. A Practical Guide*. New York: Human Sciences Press, 1977. 366 pages, \$17.95.

Dudley J. Chapman. *The Sexual Equation*. New York: Philosophical Library, Inc., 1977. 434 pages, \$16.95.

Gerard Chrzanowski. *Interpersonal Approach to Psychoanalysis*. New York: Halsted, 1977. 242 pages, \$16.95.

Richard W. Coan. *Hero, Artist, Sage, or Saint?* New York: Columbia University Press, 1977. 322 pages, \$20.00 hardcover, \$6.50 paperback.

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Anthony Davids. *Child Personality & Psychopathology: Current Topics, Volume 3*. New York: John Wiley, 1976. 299 pages, \$18.95.

Jack D. Douglas, Paul K. Rasmussen, Carol Ann Flanagan. *The Nude Beach*. Beverly Hills, California: Sage Publications Inc., 1977. 244 pages, \$13.95 hardcover; \$6.95 softcover.

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Douglas H. Heath. *Maturity and Competence, A Transcultural View*. New York: Gardner Press, 1977. 287 pages, price unknown.

Hubert J. M. Hermans. *Value Areas and Their Development, Theory and Method of Self-Confrontation*. Amsterdam: Swets and Zeitlinger B. V., 1976. 294 pages, Dutch Guilders 88.40.

George R. Jacobson. *The Alcoholism: Detection, Diagnosis and Assessment*. New York: Human Sciences Press, 1976. 414 pages, \$19.95.

Michael P. Janisse. *Pupillometry—The Psychology of the Pupillary Response*. New York: Hemisphere Publishing Corporation, 1977. 204 pages, \$22.50.

Brian G. Jones, Charles Dayton, H. B. Gelatt. *New Methods for Delivering Human Services*. New York: Human Sciences Press, 1977. 140 pages, \$10.95.

- Mark Kammerman. *Sensory Isolation and Personality Change*. Springfield, Illinois: Charles C. Thomas, 1977. 310 pages, \$12.75.
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# Journal of Personality Assessment

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**TWO SUMMER WORKSHOPS  
AMERICAN PROJECTIVE DRAWING INSTITUTE  
NEW YORK CITY**

**Basic Workshop — July 24, 25, 26, 1978**

Suggested accompaniment for the Basic Workshop. E F Hammer. *The Clinical Application of Projective Drawings*, published by Charles Thomas, 301 East Lawrence Avenue, Springfield, Illinois 62717.

**Advanced and Case Seminar — July 26, 27, 28, 1978**

Suggested accompaniment for the Advanced Workshop: *Advances in the House-Tree-Person Technique: Variations and Applications* by J. N. Buck and E. F. Hammer, published by Western Psychological Services, 12035 Wilshire Blvd., Los Angeles, California 90025.

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**1978 SPA Meeting in Toronto**

The Society for Personality Assessment, Inc. Board meeting  
(open to membership):

**Sunday, August 27 — 5:30-8:00 pm**

Address by Dr. Roy Schafer, recipient of the Bruno Klopfer Memorial award, *Projective Test Responses Manifesting the Struggle Against Decompensation*:

**Tuesday, August 29 — 3:00-4:00 pm**

Reception to honor Dr. Schafer:

**Tuesday, August 29 — 4:00-5:00 pm**

## The Effects of Mood Upon Imaginal Thought

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Santa Barbara

and  
MICHAEL GREEN  
Child Guidance Clinic  
of Springfield (Mass.) Inc.

**Summary:** The effects of mood upon imaginal thought were explored with three subjects and an undergraduate female hypnotic subject who was instructed to produce "free-floating" anxiety or pleasure in varying degrees. The subjects produced a range of three Blacky Pictures and reported on the content of the pictures. The subjects who were under sway of the mood "Data" produced pictures that were characterized by the affective states clearly indicated by the mood induction. The analysis showed the anxiety mood to be associated with pictures that were characterized by features characteristic of nocturnal fear, whereas the pleasure mood was associated with pictures of daydreamlike ratings. The results suggest that the mood induction of anxiety is related to physical states of arousal and that the mood induction of pleasure was associated with circular movements and overt sea themes.

This study was designed to explore the effects of two contrasting emotional states, anxiety and pleasure, upon imaginal processes and content. The aim was first to induce moods of "free-floating" anxiety or pleasure in varying degrees, and then to elicit fantasy productions conducive to the operation of primary and secondary processes of thinking. The independent manipulation of relatively content-free affective states, made possible by hypnotic programming techniques (see Blum, 1972), permits a degree of control otherwise unattainable in seeking to clarify the role of emotion in imaginal thought. The typical experimental attempts to generate affective states, like anxiety, by means of situational contexts inevitably confound content from the induction setting with the imaginal content under scrutiny. They have, of course, been many studies whose intent aimed at clarifying the effects of stressful pre-sleep experiences on dream content (see DeKoninck & Koussak, 1975, for a review of this literature).

An ideal laboratory medium for tapping imaginal thought is controlled induction in the hypnotic dream triggered by specific stimuli. This medium is, of course, artificial in the sense that it cannot be considered identical with either nocturnal

dreams or waking fantasy, offers a fertile setting for the operation of primary and secondary processes of thinking (see Levy & Harrison, 1976), and possesses the further experimental advantage of being repeatable over large numbers of trials with intervening amnesia. A general review of issues and evidence surrounding the hypnotic investigation of dreams is available in a book by Moss (1967). In our own laboratory we had previously explored with three subjects the influence of degree of cognitive arousal upon hypnotic dreams in response to the presentation of Blacky pictures (Blum, 1972). The heuristic quality of that research led directly to the study described below.

### Method

#### Subject

The subject was a 20-year-old female undergraduate who had already served as a paid participant in our hypnosis laboratory for almost two years at approximately four hours per week. Initially selected for her high hypnotic susceptibility (score of 12 on Form A of the Stanford Hypnotic Susceptibility Scale [Weitzenhauer & Hilgard, 1963]) and comparable performance on an abbreviated version of advanced Stanford Hypnotic Scale (Weitzenhauer & Hilgard, 1963), she had taken part in a variety of experiments including the administration of hypnosis to other subjects. As part of her previous laboratory training, she had previously reported a number of spontaneous dreams of a "free-floating" type, a peak of free-floating

Based upon an invited address to the 1977 annual meeting of the Society for Personality Assessment, San Diego, California.

We wish to express our indebtedness to Marcia I. Porter for her assistance in the data collection and transcription of protocols.

pleasure (+5) down to a neutral point (0) and up to a peak of free-floating anxiety (-5). These affective training procedures and evidence of their validity are described in detail elsewhere (Blum, 1972). The original hypnotic dream training, in response to specific stimuli, had stressed the often bizarre nature of such content and her subsequent dreamlike imagery to combinations of Blacky pictures in the cognitive arousal study was filled with primary process material.

### *Procedures*

The study was conducted entirely under hypnosis in order to minimize distortions in reporting and to maximize interpretability. The subject was instructed to have her imagery grow directly or indirectly out of all three Blacky pictures (Blum, 1950) shown to her at the start of a trial. Looking in a tachistoscope, she saw each of three pictures clearly for 0.5 seconds with an interval of 0.5 seconds between them. For the next 20 seconds she experienced her imagery with eyes closed until the experimenter said "Stop." At that point the subject's prior programming dictated that she give a detailed account of her just completed dream and then indicate the end of her report by saying "that's all." Her statements were tape-recorded and later transcribed verbatim. At the end of each trial, the subject was told to rest, which meant that she sat back in her chair and made herself amnesic for the entire trial before going on to the next one. This procedure minimizes distortion in reporting because the subject narrates her dream immediately after experiencing it and does not have to undergo a disruptive change of state, as from sleeping to waking in REM research, between dream and report. Reporting under hypnosis also seems to promote an exceptional degree of candor, exemplified by the following from the same subject in the prior study: "There was an image of a penis right in front of me, in front of my face, and it started growing and it grew until it was about 20 times as big as I was and then crushed me on the ground." Interpretability of the imagery is aided by the experimenters' knowledge of the antecedent conditions, namely themes associated with the three Blacky pictures.

The independent variable, a mood of free-floating anxiety or pleasure, was manipulated as follows:

Before each trial the experimenter said "Ready," a signal for the subject to look into the machine, and then spoke one of seven cues: Three degrees of anxiety, ranging from mild (-1) to fairly strong (-3) to peak (-5); the three comparable degrees of pleasure (+1, +3, +5); and the affectively neutral point (0). Three seconds were allowed to elapse while the subject reached the appropriate level and then the picture presentation began. The affective cue remained in effect by instruction through the 20 seconds of dreamlike imagery (until the experimenter said "Stop"), at which time the subject automatically returned to the neutral point (0) for her report.

The experiment was carried out over 7 sessions in a one-month period with 14 dream trials on each day. There were 14 separate combinations of 3 Blacky pictures (randomly combined from a pool of 9 pictures) and each combination appeared once per session. Over the total 98 trials, each of the 14 picture combinations was paired with the 7 affective cues in random orders.

Two types of data analysis were carried out—interpretive and empirical. The second author, an experienced psychoanalyst (Instructor: The Western New England Institute for Psychoanalysis), wrote interpretive comments for each of the dream protocols and also categorized each one as resembling more (1) nocturnal dreams, or (2) daydreams, or (3) waking imaginal productions. Since he had not been present at the time of data collection, he also rated each protocol as to its probable mood cue. The first author, who had collected the data, performed the empirical analyses.

### *Results*

Before describing results of the various analyses, it might be helpful to convey the flavor of the subject's responses by presenting an illustrative set of dream protocols, consisting of responses to the same combination of Blacky pictures under several of the cue conditions. The three pictures shown in order in the tachistoscope were those dealing with masturbation (Picture V) where Blacky is licking herself as she "discovers sex,"

oral sadism (Picture II) where Blacky is chewing on Mama's collar, and guilt feelings (Picture IX) where Blacky is cringing before an accusing conscience figure. Each protocol is headed by the affective cue in parentheses and the number of the trial sequence of 98:

(-5) #78

I was being chased by a saw-blade, a circular one. It was spinning, and it was zipping around like a flying saucer in the air, like a frisbee or something. And it kept coming back and trying to cut me in half or something and I kept hitting the ground just as it whizzed overhead until finally I jumped into a sort of gopher hole and hid there. And then I heard it going around outside for awhile and then it went away. And that's all.

(-1) #94

I was kind of worried about something but I don't know what. And I was walking along a road just kind of taking a walk. And finally I was just tired of walking anymore and so I looked up to my left side and up to the sky and then to my right side and then down and then up ten times rotating my head. And then I started spinning around in one place and making myself dizzy while looking up at the sky. And finally I got so dizzy that I just kind of fell down on the ground and lay there. And that's all.

(+3) #46

I was sitting in the midst of a bunch of people out in a field somewhere - maybe it was a picnic group or something like that - and all of a sudden I felt kind of a contempt for all of them. They were all older than I was, middle-aged or something, and I considered them kind of fuddy-duddy. And so I started kind of prancing around and taunting them, just to be kind of a bitch I took my blouse off and kept on dancing around. And they were all just absolutely horrified and I was just laughing at them. And that's all.

### *Evidence for Influence of Mood Upon Dream Responses*

In the course of hypnotic inquiry conducted at the conclusion of the experiment, the subject stated that she had responded to the mood cues at the appropriate level right away and their effect had lasted until the experimenter said "Stop." The following are synopses of her reported subjective experiences gen-

erally in response to the various cues.

- 1: slightly troubled but don't know about what; sort of a tingling sensation and slight tenseness; sometimes a sinking feeling, almost like a chill.
- 3: more intense feeling that something around me is threatening but I don't know what it is; stronger feeling of closing myself in; stomach knotting up, like the muscles twitch, tense, and then relax again.
- 5: tension turns into a shaky, sweating, jittery thing, like I can't control it; knotted feeling in my limbs, stomach, chest, and throat; my preoccupation is all-encompassing, like one big underlying emotion; nothing's right, everything's wrong; I feel like I'm contracting, withdrawing.

Pleasure was described as "feeling good" in varying degrees, again without knowing the cause, and also was accompanied by tingling sensations. The peak of pleasure, +5, was "like a frenzied joy, tingling up and down my spine;" "just fantastic, something you can't describe in words, practically every word that's good;" "wonderful, no flaws, like a kaleidoscope, everything is patterned." In contrast to the contracting sensation of -5, she felt herself expanding.

When asked whether these moods had affected her dreams, she replied that they did at least part of the time. For example, whatever she was dreaming about in -5 had a "negative tinge," everything in +5 was "good, positively tinged." The positive and negative feelings were "more strongly in consciousness at the beginning of a trial and then the dream became more salient, but the feelings remained."

The blind affect ratings of each protocol by MG, which he felt to be a difficult task, support the subject's own impressions. The product-moment correlation between actual and rated cues was +.58 ( $p < .001$ ), with 80% of the anxiety trials rated in the correct direction. Of the 14 dreams under the -5 condition, only 1 was not rated in the anxiety direction and 9 were correctly ascribed specifically to -5. Similarly, only 1 of the 14 +5 pleasure dreams was rated as anxiety and 6 were correctly assigned to +5. The high congruence between actual and rated cues cannot be attributed merely to clues



from manifest content, since less than half (48%) of the anxiety dreams contained specific mention of being afraid, anxious, or upset.

Thus, it seemed reasonable to conclude that, overall, mood did influence imaginal thought to a significant extent. The particular nature of that influence was explored next.

#### *Relationship of Mood to Ratings of Nocturnal, Daydream, or Waking Quality*

Without knowledge of the actual mood condition, MG had rated each protocol as to whether it resembled a nocturnal dream, daydream, or waking thought more. For nocturnal, he depended heavily on the relative preponderance of primary-process manifestations, such as pictorial imagery versus cognitive process, relative lack of obvious concern with morality, reliance on the dreamwork mechanisms of condensation, displacement, and symbolization. Assessment of daydreamlike quality was based upon a relative lack of dramatization as well as the other mechanisms, and an orientation toward overcoming narcissistic mortification, from whatever source. Of the 98 dreams, 75 were classified as nocturnal dreams, 18 as daydreams, and only 5 as resembling waking fantasy more. For example, out of the three protocols cited above, one was classified as daydreamlike (#46) and the remaining two were labeled nocturnal.

A significant relationship was found between anxiety mood and the nocturnal classification. Lumping all three anxiety degrees, 37 of 42 protocols were considered nocturnal in comparison with 38 out of 56 for the combined pleasure and neutral categories ( $\chi^2 = 5.48, p < .02$ ). Also, the more extreme the anxiety, the stronger the relationship, with all 14 of the -5 protocols being rated as nocturnal in quality. For the stronger pleasure moods, +3 and +5, there was a tendency toward relatively greater incidence of daydream ratings compared to the other affective states (9 of the 18 daydream protocols were +3 or +5; only 3 were -3 or -5). For the very infrequent waking classification, none of the 5 protocols fell

in the -3 or -5 conditions; 4 were at the neutral or weak intensities (0, +1, -1).

The next analysis sought to shed further light on these relationships by tallying MG's interpretive comments. Eighteen characteristics received one or more mentions throughout his written comments on the protocols; 11 of these had at least 6 tallies, which served as a minimal basis for assessing directional trends differentiating the mood conditions. The three degrees of anxiety, necessarily combined because of the low frequencies, showed a higher incidence of regression (9 out of 12 total tallies fell in the anxiety category), shifting imagery and absence of logic (9 out of 10), and reversal (4 out of 6). Compared to the neutral and pleasure conditions, anxiety was low in denial (0 out of 6), frankness (0 out of 6), and magical quality (1 out of 8). No discernible trends emerged for the remaining 5 characteristics: repression, condensation, weaving of themes, symbolization, and dramatization.

#### *Empirical Analysis of Themes According to Mood*

A purely empirical analysis of themes contained in the protocols was carried out independently by GSB. Five broad categories of themes occurred in sufficient numbers to warrant analysis. These included physical injury, or threat of injury, to the subject herself; verbal aggression and displays of temper by the subject; physical aggression by the subject toward others; circular movements by the subject; and overt sex themes. Table 1 gives the incidence of these themes for the combined anxiety versus pleasure conditions. One clear reflection of the anxiety mood in the dreamlike imagery is the significantly higher incidence of physical injury to the subject, both self- and other-inflicted ( $p = .01$  by the binomial test). Moreover, the extent of injury appears to be correlated with degree of anxiety. At the peak -5 degree were such themes as having her head split open by doctors, in danger of being cut in half by the spinning saw-blade, and tearing her hair out in anguish; at -3, being whipped, shoved hard, and smashing her foot while kicking a tree in anger; at -1,

Table 1  
Frequency of Themes in Anxiety Versus Pleasure Conditions

Theme	No. Anxiety	No. Pleasure
Physical injury or threat of injury to subject	14	3
Verbal aggression and displays of temper by subject	11	3
Physical aggression by subject towards others	2	4
Circular movements by subject	2	9
Overt sex themes	5	13

being pulled by the ear or lunged at in the dark. By contrast, the few injury themes associated with pleasure included such relatively innocuous acts as tripping and falling, or flicking away attacking ghosts with her little finger.

The other theme category with a significantly higher incidence for anxiety is verbal aggression and displays of temper by the subject ( $p = .03$ ). Here again the extent of violence seems to increase with degree of anxiety, ranging, for example, from kicking clods of dirt dejectedly (-1) to kicking rocks rebelliously (-3) to throwing a violent temper tantrum because everybody is against her (-5).

The two theme categories in which the pleasure mood predominated significantly are circular movements ( $p = .03$ ) and overt sex themes ( $p = .05$ ). Examples of the former are doing cartwheels and spinning, being on a merry-go-round, spinning like a top, and skating in circles. Examples of the latter are masturbating with kotex, being in bed with a man, and watching her parents make love. The smaller number of overt sex themes associated with anxiety tend to have an aggressive component, such as being whipped for having sexual fantasies.

#### Discussion

The postexperimental hypnotic inquiry yielded some interesting observations concerning the process of imagery formation in this task. The subject said

that she saw all three Blacky pictures clearly at the outset. Sometimes a common theme flashed in her head right away, for example, if all three involved hostility. This common thread usually affected her subsequent dream but, since she only had one or two seconds to go through the "mental correlating," there wasn't much time before the dream "came on." Sometimes there was a clear dream picture right away; more often she experienced a "nebulous swirling around for about five seconds" before the image took shape. She felt that the swirling was related to the difficulty of picture combinations rather than to the mood cues. The dream "just happened spontaneously" without trying to make it conform to any thread she had detected previously, and "I was not aware of the pictures while dreaming, that's what surprises me." When asked about that process, she offered the comment that "perhaps dreams are an outlet to enable people to shuffle and reorganize sensory impressions from when they're awake or just started dreaming."

Compared to her nocturnal dreams, these were shorter and less complex. As to the extent of the dream recaptured in her report, she felt that all kinds of "impressions, feelings, and attitudes were somewhat beneath the surface and not available to words" but that her reporting of events was accurate. Physical aspects of the pictures played a part spontaneously in her dreams as well as the picture themes.

Between trials she always put the previous dream out of her mind and she never had the feeling that a current dream was familiar or similar to an earlier one. When asked about her reaction to the experiment as a whole, she said that she "kind of enjoyed it—it was fun having dreams, I got kind of a creative satisfaction out of it." Also, she was not bothered afterwards by the bad dreams.

Taken as a whole, the subject's inquiry comments give no indication that she attempted to manipulate her dreamlike images in any way to conform to the mood cues. Instead they convey the clear impression that she had executed the task with the desired degree of spontaneity and had reported her imagery as faithfully as possible. The subtle operation of demand characteristics, e.g., intentionally linking negative themes with anxiety cues, is contraindicated by the differentiated pattern of findings. In the empirical theme analysis verbal aggression and displays of temper by the subject were associated significantly with anxiety, but physical aggression on her part toward others was not.

Assuming, therefore, that we can grant the legitimacy of the obtained data suggesting that nonspecific moods do influence dreamlike imagery, how are we to interpret the specific directions of the findings? Free-floating anxiety produced imagery judged to be more closely related to nocturnal dreams, inferred generally from ratings of primary-process quality and particularly tied to regressive, alogical features; pleasure, on the other hand, bore a closer affinity to the daydream classification than did anxiety. Empirically, anxiety was significantly related to themes of physical injury to the self, verbal aggression toward others and displays of temper. Overt sex themes and circular movements accompanied the pleasure moods more often. It appears as though strong anxiety overwhelmed the subject's defenses, permitting the emergence of primitive themes such as fear of bodily mutilation, and encouraged the direct expression of strong oral sadistic impulses which MG had noted frequently in his protocol comments. Strong positive affect seems to have facilitated wish-fulfilling fantasy and expression of libidinal urges, both directly in overt sexual themes and in-

directly in spinning imagery, which occurred disproportionately more often in response to the picture of Blacky "discovering sex."

Finally, the study has a number of methodological implications for personality assessment. On the research side, semistructured projective stimuli, in this case the Blacky pictures, served effectively to elicit primary process ideation, and in combination produced complex, interwoven themes traceable back to their antecedents. The hypnotic procedures permitted independent manipulation of free-floating affect in degree as well as kind, and made possible the large replication of dream trials without contamination by conscious recall of previous trials. The hypnotic condition appears also to have facilitated the production of rich dreamlike imagery not easily obtainable in laboratory settings. So the juxtaposition of projective stimuli and hypnotic programming techniques offers a promising approach to resolving the research dilemma of how to combine experimental rigor with clinically rich data. Beyond the laboratory the results of the study suggest that the subject's mood while responding to projective stimuli in clinical settings should be taken into account as a potential influence upon thematic content.

#### References

- Blum, G. S. *The Blacky Pictures: A technique for the exploration of personality dynamics*. Box 1291, Ann Arbor, Michigan: Psychodynamic Instruments, 1950.
- Blum, G. S. Hypnotic programming techniques in psychological experiments. In E. Fromm & R. E. Shor (Eds.), *Hypnosis: Research developments and perspectives*. Chicago: Aldine-Atherton, 1972.
- DeKoninck, J.-M., & Koulack, D. Dream content and adaptation to a stressful situation. *Journal of Abnormal Psychology*, 1975, 84, 250-260.
- Levin, L. A., & Harrison, R. H. Hypnosis and regression in the service of the ego. *The International Journal of Clinical and Experimental Hypnosis*, 1976, 24, 400-418.
- Moss, C. S. *The hypnotic investigation of dreams*. New York: Wiley, 1967.
- Weitzenhoffer, A. M., & Hilgard, E. R. *Stanford Hypnotic Susceptibility Scale, Forms A and B*. Palo Alto, California: Consulting Psychologists Press, 1962.

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## Bender Gestalt Signs as Indicators of Conceptual Impulsivity

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*Summary:* Sixty children were individually administered the Matching Familiar Figures Test and the Bender Gestalt Test. The mean age of the subjects was 10 years, 11 months. A significant relationship was found between errors on the Bender Gestalt test and impulsivity. More specifically, increased or decreased loops (figure four or six), change in angulation, loops for circles and circles for dots or dots for circles were all significantly related to children's impulsivity.

There has been little research concerning the relationship between Bender Gestalt signs and conceptual tempo — the characteristic speed and accuracy with which a person responds to problem-solving situations. Preliminary data reported by Kagan (1965a, p. 139) showed a correlation "in the .70s" between Bender scores and average latency to first response on the Matching Familiar Figures test. Reflective children made fewer errors in Bender Gestalt reproductions than impulsive children.

However, current research indicates that overall errors on the Bender Gestalt Test cannot be explained on the basis of impulsivity-reflectivity. Wallbrown, Wirth, and Engin (1975), found a non-significant correlation between the number of Bender errors and total working time on the Bender Gestalt test. Further, they found only a negligible correlation between mean latency on the MFF test and Bender errors as determined by Koppitz (1964). A second study by Wallbrown and Wallbrown (1975) found that conceptual impulsivity constituted a relatively small but statistically significant component of the total variance in Koppitz (1964) errors on the Bender Gestalt test. Taken together, the results of these two studies indicate that for normal subjects, conceptual impulsivity as defined by Kagan (1965a) does not constitute a noteworthy aspect of Koppitz (1964) errors on the Bender Gestalt test.

Research to date has focused on the

Koppitz (1964) developmental scoring system and has not been involved with other determinants or signs commonly found in Bender reproductions. It would be noteworthy to ascertain if other specific determinants correlated with the presence or absence of conceptual impulsivity. An examination of Hutt's (1969) indicators of impulsivity may lend support to Kagan's (1965a) hypothesis concerning the relationship between conceptual impulsivity and Bender Gestalt performance.

A study by Brannigan and Benowitz (1975) utilized determinants (e.g. poor emotional control and inability to delay) which have been interpreted as indicators of control problems by Hutt (1969), and found significant relationships between Bender Gestalt signs and antisocial acting out tendencies. Although Brannigan and Benowitz (1975) cautioned against making inferences based on individual signs, they pointed out that the occurrence of one or more of the specific signs of impulsivity in a record with several additional signs, allows one to place greater confidence in a behavioral diagnosis.

The present study was designed to explore the relationship between impulsivity-reflectivity and Bender-Gestalt performance, utilizing Hutt's (1969) determinants.

### *Method*

#### *Subjects*

Sixty children in nongraded schools



Table 1

Chi Square Analysis of the Relationship Between Bender Gestalt Signs and Impulsivity/Reflectivity

Gestalt Signs	Proportions		$\chi^2$
	Impulsive	Reflective	
1. Collision	.23	.17	.00
2. Increase or decrease in amplitude of the curve	.95	.78	.03
3. Straight or spiked lines for curves	.18	.05	.52
4. Flattened curves	.32	.11	1.39
5. Uneven or irregular curves	.73	.44	3.30*
6. Increased or decreased loops on figures four or six	.68	.28	4.94**
7. Change in angulation	.95	.72	2.56
8. Loops for circles	.64	.22	5.28**
9. Dashes for dots	.18	.28	1.21
10. Circles for dots or dots for circles	.95	.61	5.30**
11. Noncontiguous figures	.05	.05	.77
12. Reduction of elements	.14	.11	.06
13. Reduction of curves	.14	.22	1.27
14. Addition of loops or curlicues	.41	.28	.28
15. Addition of lines or curves changing the Gestalt	.32	.11	1.39

\*  $p < .05$  for one tailed test.\*\*  $p < .025$  for one tailed test.

were all significant indicators of impulsivity. Furthermore, MFF response time seems to be a better indicator of Bender Gestalt performance than the number of MFF errors.

The results of the present study are consistent with the findings of several other studies on the relationship between conceptual impulsivity and test performance. For example, impulsivity has been found to be adversely related to performance on tasks involving word recognition (Kagan, 1965b), serial learning (Kagan, 1966), inductive reasoning

(Kagan, Pearson, & Welch, 1966), auditory discrimination (Margolis, 1977) and intelligence (Brannigan & Ash, 1977). It appears therefore that children's test performance may be related to an impulsive disposition which may not involve perceptual, motor or emotional disorders.

## References

- Bender, L. A visual motor Gestalt test and its clinical use. *Research Monographs, No. 3. American Orthopsychiatric Association*. New York: American Orthopsychiatric Association, 1938.

orated in Plattsburgh, New York, served as subjects. The mean age was 10 years, 11 months, with a range of 10 years to 11 years, 11 months.

### *Procedure*

Each subject was administered both the Matching Familiar Figures Test (Kagan, 1965) and the Bender Gestalt Test (Bender, 1938).

The Matching Familiar Figures test is a visual match-to-standard instrument. It consists of two practice items followed by 12 test items, each containing one standard with six variants. Both the standard and variants are presented simultaneously so that the subject has to select the variant that he thinks is identical to the standard. In the administration of each item, latency to first response and total errors are recorded. Children who both responded more quickly than the group median response time and made more errors than the group median error score were classified as impulsive; those who responded more slowly and made fewer errors were classified as reflectives. There were 22 impulsives and 18 reflectives.

Bender Gestalt figures were presented to the subjects individually. Protocols were then scored for the determinants which have been interpreted as indicators of impulsivity (Hytt, 1969). The determinants that were selected are listed below.

### *Collision:*

1. Running together or overlapping of two figures or one figure and the edge of the paper.

### *Curvature difficultly:*

2. Increase or decrease in the amplitude of the curve.
3. Straight or spiked lines for curves.
4. Flattened curves.
5. Uneven or irregular curves.
6. Increased or decreased loops on figures four or six.

### *Change in angulation:*

7. Increase or decrease in size by 15 degrees or more.

### *Retgression:*

8. Loops for circles.

9. Dashes for dots.

10. Circles for dots or dots for circles.

### *Simplification:*

11. Non contiguous figures.
12. Reduction of elements.
13. Reduction of curves.

### *Elaboration or doodling:*

14. Addition of loops or curlicues.
15. Addition of lines or curves changing the Gestalt.

### *Results*

A biserial correlation computed for impulsivity-reflectivity and total Bender Gestalt errors was .60. This correlation was significant at the .001 level and indicated that impulsive children tended to produce more errors in figure reproductions than reflective children.

An examination of the Pearson product moment correlation for the total sample of 60 subjects revealed that MFF response time ( $r = .45, p < .01$ ) was significantly related to Bender Gestalt signs. A similar analysis for MFF errors was not significant ( $r = .22, p > .05$ ).

Table 1 illustrates a Chi Square analysis of the relationship between individual Bender signs and impulsivity. Yates' correction for continuity was used when expected cell sizes were less than five.

The signs which reached significance were uneven or irregular curves, increased or decreased loops (figures four or six), loops for circles and circles for dots or dots for circles.

### *Discussion*

This study was designed to examine the relationship between specific determinants found in reproductions of Bender Gestalt figures and impulsivity-reflectivity. Children classified as impulsive according to the Matching Familiar Figures test made significantly more errors than reflective children on the Bender Gestalt test. An examination of the Chi Square analyses in Table 1 shows significant relationships between several Bender Gestalt signs and impulsivity. Uneven or irregular curves, increased or decreased loops (figures four or six), loops for circles and circles for dots or dots for circles

- Brannigan, G. G., & Ash, T. Cognitive tempo and WISC-R performance. *Journal of Clinical Psychology*, 1977, 33, 212.
- Brannigan, G. G., & Benowitz, M. L. Bender-Gestalt signs and antisocial acting out tendencies in adolescents. *Psychology in the Schools*, 1975, 12, 15-17.
- Hutt, M. L. *The Hutt Adaptation of the Bender Gestalt Test* (2nd ed.). New York: Grune & Stratton, 1969.
- Kagan, J. *Matching Familiar Figures Test*. Cambridge, Mass: Author, Harvard University, 1965.
- Kagan, J. Impulsive and reflective children: Significance of conceptual tempo. In J. D. Krambolz (Ed.), *Learning and the educational process*. Chicago: Rand McNally, 1965. (a)
- Kagan, J. Reflection-impulsivity and reading ability in primary grade children. *Child Development*, 1965, 36, 609-628. (b)
- Kagan, J. Reflection-impulsivity: The generality and dynamics of conceptual tempo. *Journal of Abnormal Psychology*, 1966, 71, 17-24.
- Kagan, J., Pearson, C., & Welch, L. Conceptual impulsivity and inductive reasoning. *Child Development*, 1966, 37, 583-594.
- Koppitz, E. M. *The Bender Gestalt Test for Young Children*. New York: Grune & Stratton, 1964.
- Margolis, H. Auditory perceptual test performance and the reflection-impulsivity dimension. *Journal of Learning Disabilities*, 1977, 10, 164-172.
- Wallbrown, J., & Wallbrown, F. Further evidence concerning the validity of Kagan's comments on the clinical interpretation of the Bender Gestalt. *Perceptual and Motor Skills*, 1975, 41, 51-54.
- Wallbrown, F., Wirth, E., & Engin, A. Some evidence relevant to Kagan's comments on the clinical interpretation of the Bender Gestalt. *Journal of Clinical Psychology*, 1975, 31, 345-347.

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## Discriminating Violent Individuals by Means of Various Psychological Tests

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**Summary:** Attempted to clarify the 43/4-8(8-4) controversy and further research the relationship between assaultiveness and other non-MMPI measures. Sixty-one male adolescent prisoners divided into four groups according to Race and Level of Assaultiveness served as subjects for this study. Each prisoner was administered the MMPI, the Buss-Durkee Hostility Scale and the Rotter I-E scale. The results suggest that the 4-3 code type is not an accurate predictor of violence; that elevations on F4897&6 describe the offender population (with 8-4 describing the violent profile type); and that the Buss-Durkee Hostility scale may be valuable in assessing the violent personality.

The wealth of knowledge about the social-economic and psychological effects of violent crime (Graham & Gurr, 1970; Kirkham, Levy, & Crotty, 1970; Walker, 1968) has not contributed to its deterrence. There are also no effective methods of determining which individuals are potentially threatening (Kozol, 1975; Rubin, 1975). The need to accurately identify violent individuals — either for rehabilitation or social control — led to the use of the MMPI and other personality tests as predictors.

While MMPI profiles of offenders will show marked elevations (T scores over 70) on scales F4689, it is often difficult to distinguish between violent and nonviolent profiles. Indeed, MMPI research has often produced varied and confusing results. For example, while some MMPI researchers suggest that violent offenders have 4-8/8-4 two point code profiles (Bauer & Clark, 1976; Hathaway & Monachesi, 1963; Panton, 1962), others suggest that these scales do not significantly differentiate between violent and nonviolent offenders (Johnson, 1971). In addition, 4-8/8-4 code types are also achieved by nonoffenders (Marks, Seeman, & Haller, 1971; Carson, Note 1).

The alternative identification of the 4-3 code type has also been questioned (Davis & Sines, 1971; Person & Marks, 1971). Critics of the 4-3 violent personality type have attributed the earlier findings to the young ages of the subjects; manner of code derivation — i.e., D<sup>2</sup>

technique (Cronbach & Gleser, 1953, in which a mathematical versus empirical criterion is used), or taking the average ranks of the individual profiles. The 4-3 studies all have different definitions of assaultiveness. Racial, sexual, and age differences are either ignored or minimized.

The following study was an attempt to clarify the 4-3/4-8(8-4) controversy and further research the relationship between assaultiveness and other non-MMPI measures.

### Subjects

Sixty-one male adolescent prisoners, in a medium security southern prison for youthful offenders, were divided into four groups according to Race (Black vs. White) and Level of Assaultiveness (High vs. Low). Strict behavioral criteria were employed in selecting the most violent Black and White prisoners.

A High Assaultive prisoner (High-A) was defined as an individual who had a lifelong history of engaging in physical violence and assaultiveness. Qualifications included: at least two listings in the security officers' file for acts of physical violence against other inmates or staff; multiple charges for physical violence outside the prison; pre-sentence history of assaultiveness; and judged by both guards and other inmates as assaultive and dangerous.

A Low Assaultive (Low-A) individual met none of the above criteria. Though



committed to a penal institution, he was judged by both guards and other prisoners as nonassaultive. There was also a lack of violence in his social history.

The average age of the subjects was 18.5 years. All subjects fell within social class level IV on the Hollingshead Index, had an average Beta IQ, and completed an average of 8.8 years education.

### Method

Each subject was administered the Buss-Durkee Hostility Scale (Buss & Durkee, 1957), the Rotter I-E scale (Rotter, 1966), and the MMPI. The MMPI was also scored for Panton's (Note 2) Prison Classification Index (PCI), the ego-strength, subscale, and a group of additional subscales; the R/S (Byrne, 1961), PAI and AH (Welsh & Sullivan, Note 3), and HY5 (Harris & Lingo, Note 4) subscales. These subscales measured repression-sensitization, passive aggression, active hostility, and inhibition of aggression respectively.

### Results

An analysis of the subjects' Buss-Durkee (B-D) scores suggested that the High-A group had significantly larger Total ( $t = 3.35$ ;  $p < .001$ ) and  $F1$  scores ( $t = 2.32$ ;  $.05 < p < .01$ ). The High-A group also had significantly higher scores on the Irritability ( $p < .01$ ) and Suspicion ( $p < .01$ ) scales. There was no main effect for race although the White Low-A group tended to have lower scores than the White High-A group on the various subscales. The correlation matrix of B-D subscales suggested that the Total score index correlated with Buss'  $F1$  scale ( $r = .93$ ). Our data suggest that the Total score and the  $F1$  scale are probably equivalent measures for adolescent male prisoners.

The mean Rotter I-E scores showed that the High-A scores were significantly different from the Low-A ( $F = 3.84$ ,  $df = 3, 60$ ;  $.05 < p < .01$ ), though both groups mean scores were in the internal range. The variance in scores was mostly attributed to the White Low-A group.

Multivariate ANOVA results conducted on the MMPI scales were not significant. The univariate  $F$  statistics for individual MMPI and PCI scales are

presented in Table 1. Significant differences on scales  $L$  ( $F = 3.51$ ,  $df = 3, 57$ ,  $p < .01$ ),  $K$  ( $F = 3.52$ ,  $df = 3, 57$ ,  $p < .01$ ), and  $Si$  ( $F = 2.07$ ,  $df = 3, 57$ ,  $p < .01$ ) were accounted for by higher Black Low-A scores, higher Low-A scores, and higher High-A scores respectively. All of the prisoners had T scores near or above 70 on five clinical scales (46789), suggesting a high level of emotional pathology.

Because of the clinical usefulness of reporting profile code types, the MMPI results were also examined by comparing the mean ranks of the MMPI profiles. The results are reported in Table 2, yielding a typical code profile for each group. The differences in the mean ranks were tested by multiple  $t$  tests. Whites scored consistently lower than Blacks on scale  $t$  ( $t = 2.94$ ,  $df = 30$ ,  $p < .01$ ); and Low-A prisoners scored lower on scale  $O$  ( $t = 2.73$ ,  $df = 30$ ,  $p < .01$ ). The Spearman rank order correlation coefficient showed a strong consistency in the mean profiles across groups (all correlations between .75 and .88).

Corresponding multivariate ANOVA analyses of the PCI indicate that mean PCI scores differed significantly for the four groups (Wilk's lambda chi square statistic = 67.214,  $df = 36$ ,  $p < .001$ ). The mean PCI scores also differed for the High-A versus the Low-A group (Wilk's lambda chi square statistic = 33.982,  $df = 12$ ,  $p < .001$ ). There were no racial differences.

The PCI scores showed significant differences between High-As and Low-As on three scales. High-As had larger scores on Sensorimotor dissociation ( $F = 3.71$ ,  $df = 3, 57$ ,  $.05 < p < .01$ ), Anxiety ( $F = 4.65$ ,  $df = 3, 57$ ,  $p < .01$ ) and Parole Violation ( $F = 7.37$ ,  $df = 3, 57$ ,  $p < .01$ ). Although all scores were within the heterosexual range, White High-As had significantly smaller Homosexuality scores ( $F = 6.37$ ,  $df = 3, 57$ ,  $p < .01$ ).

All the PCI scores and additional MMPI subscales were dichotomized along a continuous variable and compared with normal cutoff scores to test the predictability of deviance. The results suggested that the High-As scores on scales measuring Parole Violation ( $\chi^2 = 9.07$ ,  $df = 3$ ,  $p < .05$ ), Repression/

Table 1  
Summary Table for Significant Results of  
the MMPI, PCI, and Selected Hostility Subscales

Scales	<i>p</i>	Scales	<i>p</i>
$L^1$	.01	Prison adjustment	n.s.
$F$	n.s.	Prison escape	n.s.
$K^2$	.01	Habitual criminal	n.s.
1	n.s.	Parole violation	.01 <sup>7</sup>
2	n.s.	Repression-sensitization	.01
3	n.s.	Homosexuality	.01 <sup>4</sup>
4	n.s.	Defect control and inhibition	n.s.
5	n.s.	Sensory motor dissociation	.05 < <i>p</i> > .01 <sup>5</sup>
6	n.s.	Passive-aggressive index	n.s.
7	n.s.	Active hostility	n.s.
8	n.s.	Inhibition of hostility	n.s.
9	n.s.	Repression	n.s.
0 <sup>3</sup>	.01	Ego strength	n.s.
Anx <sup>6</sup>	.01		

1. Black Low-As had largest scores of all groups.
2. Low-As had higher scores than High-As.
3. Tendency for High-As to have larger scores than Low-As and for White Low-As to have smaller scores than White High-As.
4. White High-As had the lowest scores (measures homosexuality). All scores are within the heterosexual range.
5. High-As had larger scores than Low-As.
6. High-As had larger scores than Low-As with White High-As larger than everyone.
7. High-As had larger scores than Low-As. The group scores suggested that all groups were parole violation risks (*t* scores > 58) but High-As scores were > 70.

Sensitization ( $\chi^2 = 9.09$ ,  $df = 3$ ,  $p < .05$ , High-As are sensitizers), Anxiety ( $\chi^2 = 8.57$ ,  $df = 3$ ,  $p < .05$ ) and Sensory Motor Dissociation ( $\chi^2 = 9.25$ ,  $df = 3$ ,  $p < .05$ ) could be accurately predicted. Race, however, interacted with the level of assaultiveness for the latter two scales, with High-As having the largest scores.

#### Discussion

Since both the Total and F1 scores appear to measure similar dimensions of assault proneness, either one can be used to identify High-A offenders. Our findings suggest that the B-D scale can be clinically useful in differentiating between adolescent High and Low assaultive

Table 2

Mean Rank Orderings of MMPI Scales  
From Highest to Lowest

White Low (WL)	4	6	8	7	9	5	3	2	1	0
Black Low (BL)	4	8	9	2	7	6	3	5	1	0
White High (WH)	4	8	7	9	6	5	0	2	3	1
Black High (BH)	8	4	9	7	5	6	2	1	3	0

Table 3

Spearman's  
Rank Order Correlation Co-efficient  
(Mean Ranks for MMPI Clinical Scales)

Groups	Correlation
1 2	.84*
1 3	.75*
1 4	.81*
2 3	.76*
2 4	.88**
3 4	.84*

Note: 1 = White Low; 2 = Black Low;  
3 = White High; 4 = Black High.

\*  $p < .05$ .

\*\*  $p < .01$ .

groups. We agree with Gunn & Gristwood (1975) that a hostility scale should be devised using questions similar to ones that would be used in an interview. The Resentment and Irritability subscales provided a global index of difference and were useful in identifying the High-A group. Although the White Low-A group tended to have lower scores, the results could not be explained by racial factors. The B-D hostility scale seemed generally effective for distinguishing between assault prone and nonassault prone offenders.

The Rotter I-E scale has limited clinical usefulness with an adolescent population. The fact that all prisoners' scores were in the *internal* direction is consistent with previously established norms (Rotter, 1966). Racial factors, rather than personality characteristics, may have accounted for the differences between groups. Although differences between the High and Low-A groups were significant, their analysis has limited clinical meaning and utility.

The MMPI findings of three clinical scales (mean elevations above 70 T scores) and the Grand Mean on the F scale (close to 70 T scores  $\bar{X} = 66$ ,  $sd = 7.5$ ) suggest that the prisoners exhibited moderate to severe psychopathology. While some of the variance is probably due to the effects of incarceration, there were significant differences between the Low and High-A groups. Taking the Anxiety scale as a general measure of psychopathology, the High-A prisoners revealed a greater index of emotional pathology and turmoil than the Low-A prisoners.

An analysis of the mean MMPI profiles according to race and level of assaultiveness showed that elevations of scales 48&9 were typical for delinquents. These findings were in agreement with those of Wirt and Briggs (1959) and Panton (1959). Scales 0123&5 were ranked lowest by almost all the prisoners. This is also consistent with Wirt and Briggs (1959) findings that delinquents produced the 025 code. The consistent reporting in the literature of a 489 prison profile is congruent with our findings of a mean 489 adolescent prisoner profile. The 489 profile may indicate a global level of delinquency; combined with an elevated 7, it may also reflect the offender's intense emotional distress at being incarcerated.

Only scales K and O successfully differentiated between the High and Low-A groups; differences on L were attributed to the interaction of race and assaultiveness. Other MMPI investigators (Carroll & Fuller, 1971; Christensen & Le Unes, 1974) found that only the F and L scales could be used to distinguish between violent and nonviolent prisoners. Carroll and Fuller (1971) could only account for important clinical differences between vio-



lent and nonviolent groups when age was co-varied. Analyses of selected scales from Panton's PCI (Note 2) and the R/S scale yielded better results than individual MMPI subscales. The High-A group were characterized as more anxiety ridden, having a larger index of emotional turmoil and psychopathology, more prone to break parole and having defects in inhibition and control. An analyses of the High-A groups MMPI profile code types were congruent with those of acutely psychotically disturbed, hospitalized psychiatric patients. As a group High-As are probably best characterized by increased anxiety, confusion, disorganization, distrust, poor ego strength, rebelliousness, feelings of estrangement, isolation, and intense psychic distress.

Our results failed to verify a violent 4-3 profile code; in fact, only two Low-A subjects achieved 4-3 codes (3%). These findings are consistent with a series of recent studies (Gynther, Altman, & Warbin, 1973; Lewandowski & Graham, 1972; and McCreary, 1976).

Our study supports Megargee's (1966) findings that the 4-3s are less often assaultive than other code types. Since our study employed adolescent offenders, our results bear most directly on the Persons and Marks (1971) work. Additionally, since we controlled for the race of the offender, our results strongly contraindicate a 4-3 violent type. What this means is that there are probably subtle population differences (regionalization, generational, institutional, etc.) which may account for the previous reporting of a 4-3 violent personality type.

It is interesting that Gynther et al. (1973) attributed earlier positive 4-3 findings to adolescents — a finding which was inconsistent with our results. Violence is by no means a unitary phenomenon. It would be naive to assume that a single MMPI profile type could account for all assaultive individuals. Our results suggest that one must be cautious about clinically over-generalizing from a 4-3 profile code.

What about the 4-8/8-4 code (with a high *F* and 9 usually accompanying the 2 point code)? Our results suggest that the differences between the mean group profiles of Black and White assaultive

and nonassaultive offenders are minimal. While interpretation is difficult, there seems to be an interaction between race and level of assaultiveness.

MMPI researchers have paid particular attention to the variable of race in the past decade. Some researchers have even questioned the validity of applying White norms to Black MMPI profiles (Elion & Megargee, 1975; Gynther, 1972, Note 5). Blacks have been reported to produce consistently higher scores than Whites on scales measuring increased psychopathology — i.e., *F*489 (Costello, Tiffany, & Gier, 1972; Fillenbaum & Pfeiffer, 1976; McCreary & Padilla, 1977). Many Blacks are misdiagnosed and possibly mistreated (Cowen, Watkins, & Davis, 1975; Shore, 1976; Strauss, Gynther, & Wallhermfechtel, 1974). The identification of the offender profile by elevations on scales *F*489 may be responsible for the misclassification of many nonoffender Blacks along this dimension. The elevations on scales 48&9 produced by our Black subjects may relate more to racial variables than to level of assaultiveness. This could also explain the almost identical two point MMPI codes of the Black-Low and High-A groups (4-8 and 8-4 respectively). These profile codes were identical to the High-A vs. Low-A profiles, 8-4 and 4-8 respectively. Our test results confirm the need for MMPI norms on Blacks and other minority groups.

In summary, our research suggests that the 4-3 code type is not an accurate predictor of violence. The considerable overlap among the groups prevents accurate prediction from elevated MMPI codes 48&9. There is a striking lack of importance given to scales 0123&5 by offenders. Our results show that elevations on *F*4897&6 describe the offender population; 8-4 and 4-8 code types describe the High-As and Low-As respectively.

MMPI research into the violent personality is still inconclusive and often contradictory. The PCI indicators may prove to be more valuable than the MMPI in diagnosing dangerousness, but not predicting violence. The Buss-Durkee Hostility Scale may also prove valuable in assessing the violent personality.



## Reference Notes

1. Carson, R. *An introduction to MMPI interpretation*. Mimeographed. Duke University, 1960.
2. Pantan, J. *Development of a prison classification system (PCI) for the MMPI*. Unpublished paper. State Department of Correction, Raleigh, NC, 1970.
3. Welsh, G. S., & Sullivan, P. L. *MMPI configurations in passive-aggressive personality problems*. Unpublished materials, 1952. Cited in Dahlstrom, W. G., & Welsh, G. S. *An MMPI Handbook*. Minn.: University of Minnesota Press, 1960, p. 308.
4. Harris, R. E., & Lingoes, J. C. *Subscales for the MMPI: An aid to profile interpretation*. Mimeographed. San Francisco: Department of Psychiatry, University of California, 1955.
5. Gynther, M. *Ethnicity and personality; recent findings*. Paper presented for the 12th annual MMPI symposium. Mimeographed. St. Petersburg, Florida, 1977.

## References

- Bauer, G., & Clark, J. Personality deviancy and prison incarceration. *Journal of Clinical Psychology*. 1976, 32, 279-282.
- Buss, A. H., & Durkee, A. An inventory for assessing different kinds of hostility. *Journal of Consulting Psychology*. 1957, 4, 343-349.
- Byrne, D. The repression-sensitization scale: Rationale, reliability, and validity. *Journal of Personality*. 1961, 29, 334-349.
- Caroll, J., & Fuller, G. An MMPI comparison of three groups of criminals. *Journal of Clinical Psychology*. 1971, 27, 240-242.
- Christensen, L., & Le Unes, A. Discriminating criminal types by means of the MMPI. *Journal of Clinical Psychology*. 1974, 30, 192-193.
- Costello, R. M., Tiffany, D. W., & Gier, R. H. Methodological issues and racial (black-white) comparisons on the MMPI. *Journal of Consulting and Clinical Psychology*. 1972, 38, 161-168.
- Cowen, M. A., Watkins, B., & Davis, W. E. Level of education, diagnosis and race related differences in MMPI performance. *Journal of Clinical Psychology*. 1975, 31, 442-444.
- Cronbach, L. J., & Gleser, G. C. Assessing similarity between profiles. *Psychological Bulletin*. 1953, 50, 456-473.
- Davis, R. D., & Sines, J. O. An antisocial behavior pattern associated with a specific MMPI profile. *Journal of Consulting and Clinical Psychology*. 1971, 36, 229-234.
- Elion, V. H., & Megargee, E. I. Validity of the MMPI Pd scale among black males. *Journal of Consulting and Clinical Psychology*. 1975, 43, 166-172.
- Fellenbaum, G. G., & Pfeiffer, E. The mini-multi: A cautionary note. *Journal of Consulting and Clinical Psychology*. 1976, 44, 698-703.
- Graham, H. D., & Gurr, T. R. *The history of violence in America*. New York: Bantam, 1970.
- Gunn, J., & Gristwood, J. Use of the Buss-Durkee inventory among British prisoners. *Journal of Consulting and Clinical Psychology*. 1975, 43, 590.
- Gynther, M. D. Black MMPIs: A prescription for discrimination. *Psychological Bulletin*. 1972, 78, 386-402.
- Gynther, M. D. White norms and Black MMPIs: A prescription for discrimination. *Psychological Bulletin*. 1972, 78, 386-402.
- Gynther, M., Altman, H., & Warbin, R. A new actuarial-empirical automated MMPI interpretive program: the 4-3/3-4 code type. *Journal of Clinical Psychology*. 1973, 29, 229-231.
- Hathaway, S., & Monachesi, E. *Adolescent personality and behavior: MMPI patterns of normal, delinquent, dropout, and other outcomes*. Minneapolis: University of Minnesota Press, 1963.
- Johnson, J. A cross validation of 17 experimental MMPI scales related to antisocial personality. *Journal of Consulting and Clinical Psychology*. 1971, 36, 564-565.
- Kirkham, J. F., Levy, S. G., & Crotty, S. *Assassination and political violence*. New York: Bantam, 1970.
- Kozol, H. The diagnosis of dangerousness. In S. Pasternack (Ed.), *Violence and victims*. New York: Spectrum, 1975.
- Lewandowski, D., & Graham, J. R. Empirical correlates of frequently occurring two point MMPI code types: a replicated study. *Journal of Consulting and Clinical Psychology*. 1972, 39, 467-472.
- Marks, P., Seeman, W., & Haller, D. *The actuarial use of the MMPI with adolescents and adults*. Baltimore: Williams & Wilkins, 1971.
- McCreary, C. Trait and type differences among male and female assaultive and nonassaultive offenders. *Journal of Personality Assessment*. 1976, 40, 617-621.
- McCreary, C., & Padilla, E. MMPI differences among black, Mexican Americans and white male offenders. *Journal of Clinical Psychology*. 1977, 33, 171-177.
- Megargee, E. I. Undercontrolled and overcontrolled personality types in extreme antisocial aggression. *Psychological Monographs*, 1966, 80, No. 3 (Whole No. 611).
- Pantan, J. H. MMPI profile configurations among classification groups. *Journal of Clinical Psychology*. 1959, 14, 305-308.
- Pantan, J. H. The identification of habitual criminalism with the MMPI. *Journal of Clinical Psychology*. 1962, 18, 133-139.
- Persons, R., & Marks, P. The violent 4-3 MMPI personality type. *Journal of Consulting and Clinical Psychology*. 1971, 36, 189-196.
- Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 1966, 80, (1, Whole No. 609).

- Rubin, B. The prediction of dangerousness in mentally ill criminals. In S. Pasternack (Ed.), *Violence and victims*, New York: Spectrum, 1975.
- Shore, R. E. A statistical note on 'differential misdiagnosis of blacks and whites by the MMPI. *Journal of Personality Assessment*, 1976, 40, 21-23.
- Strauss, M. E., Gynther, M. D., & Wallhermfechtel, J. Differential misdiagnosis of blacks and whites by the MMPI. *Journal of Personality Assessment*, 1974, 38, 55-60.
- Walker, D. *Rights in conflict* (The Walker Report to the National Commission on the causes and prevention of violence), New York: Bantam Books, 1968.
- Wirt, R. D., & Briggs, D. F. Personality and environmental factors in the development of delinquency. *Psychological Monographs*, 1959, 73, 15.
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## Black-White Personality Differences: Another Look

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**Summary:** Investigated the meaning of Black-White differences typically discovered on personality instruments by administering a pool of items derived from both the MMPI and California Psychological Inventory, as well as a group form of the Embedded Figures Test, to a sample of 226 black and white junior college students. A cluster analysis of the unexpectedly large number of inventory items significantly differentiating the two races produced reliable and meaningful configurations. Interpretations of race differences on these clusters and the EFT provide a new perspective on the meaning of Black-White personality differences.

Race as a primary source of variance on personality assessment instruments has been well documented (Dreger & Miller, 1968; Hess, 1970; Nobles, 1973; Sattler, 1970) especially in relation to standardized personality inventories in general, and the MMPI in particular (Gynther, 1972). Consistent with traditional social science interpretation of Black-White differences as evidence of Black inferiority or deficiency (Baratz & Baratz, 1970; Guthrie, 1976; Hayes & Banks, 1972) racial differences on the MMPI have generally been construed as demonstrating lower levels of personal adjustment among Blacks. Gynther's comprehensive review and reinterpretation of these data suggest a number of alternate explanations to this conventional "deficiency hypothesis," primary among them being the impact of cultural differences on values, perceptions, and expectations. He argues for the construction of new MMPI norms for Blacks, or even the development of an entirely new MMPI. Nevertheless, Gynther is not unequivocal in his interpretation of the meaning of MMPI race differences, and the directions he tentatively suggests have had little impact on subsequent work (e.g., Davis & M. Jones, 1974).

The meaning of Black-White personality differences has just begun to be explored. Investigation has been severely hampered by the complex methodological difficulties that beset comparative racial research in psychology, including

the determination of the functional equivalence of behavior across race, and the development of measures conceptually equivalent for Blacks and Whites (E. Jones, 1977). These difficulties are not entirely intrinsic to the nature of personality inventories as assessment techniques, and usually obtain with other assessment devices, both objective and projective in nature. However, the study of Black-White personality differences has been tied primarily to the MMPI. As a consequence, many investigations of race differences have been conducted on psychiatric populations (Davis, 1975; Costello, Fine, & Blau, 1973; Miller, Knapp, & Daniels, 1968) medical patients (Harrison & Kass, 1967, 1968) or prison inmates (Panton, 1959). Focusing on normals generally yields more consistent findings, which are also obviously more representative of Blacks in general. Moreover, race comparisons on the MMPI must necessarily find one group or the other less well adjusted, since this instrument is derived from pathological categories and measures symptoms, states, or conformance to diagnostic classifications. What is needed is a comparison of Blacks and Whites on instruments oriented toward normal behavior, allowing race differences to be interpreted more objectively and with less an inherent obligation to detect deficiencies.

The MMPI's central role in comparative racial research in personality is rendered even more problematic by the continued reliance on scale scores as the primary basis for interpretation. This practice persists despite the fact that

Table 1  
Mean Age for Population Sample

	Black Males	Black Females	White Males	White Females
Mean	21.1	21.3	20.7	20.9
SD	3.16	6.46	4.78	5.34
<i>n</i>	41	56	62	67

studies have shown that Blacks and Whites differ consistently on certain MMPI scales and that the typical pattern of profile differences reflects no readily apparent clinical picture (Costello, Tiffany & Grier, 1972), thereby raising question as to the appropriateness of this approach. The notion of Black-White cultural differences has not yet been fully accepted among researchers, and the call for separate MMPI norms for Blacks has so far gone unheeded.

A fruitful approach at present to personality inventory data appears to lie in the abandonment of scale scores in favor of multivariate analysis of item responses. Harrison and Kass (1967) found that MMPI items are far more sensitive to race differences than scale scores, discovering that while important Black-White scale differences exist, even larger differences are masked by a cancelling out effect of items within scales. This approach, and a similar treatment of Black-White personality data by Erdberg (cited in Gynther, 1972) have led to more clearly interpretable findings. These results may also shed light upon Edward's (1974) failure to find the usual race differences that typically emerge on almost any personality instrument in his study of Black-White differences in social desirability and social exploration as well as internal-external locus of control. It is likely that an analysis of item differences rather than a comparison of scale scores would have revealed greater race differences, as did Gurin, Gurin, Lao, and Beattie's (1969) factor analysis of Black youths' responses to Rotter's locus of control measure.

The present study was designed to

explore Black-White personality differences and to meet objections that were raised in connection with previous work by: (a) investigating a sample population of normal young adults, (b) employing personality instruments that are not oriented toward pathology, and (c) abandoning the use of misleading scores on scales that have been standardized on White populations in favor of an item level analysis as a more direct avenue for better understanding of the meaning of Black-White personality differences.

### Method

#### Sample Characteristics

Subjects for this study were a sample ( $n = 226$ ) of Black and White students of both sexes in a junior college in the San Francisco Bay area. They ranged in age between 18 and 30, with a mean of 20.9 years (See Table 1). Despite the fact that Gynther (Note 1), after a comprehensive review of research bearing upon ethnicity and personality, has concluded that important differences remain even when socioeconomic status is held constant, some sort of control over SES is desirable. In this study, as in most comparative racial investigations, control of subjects socioeconomic background proved to be a knotty problem. Subjects completed the Hollingshead and Redlich (1958) index of socioeconomic status, and were assigned an SES level on the basis of their parents' education and occupation. While these college subjects could be matched reasonably well with these criteria, there was no guarantee that Black subjects were of the same SES as White subjects since



both income and job conditions differed for members of the two races. Furthermore, Black subjects tended to fall in lower SES brackets. A similar problem was encountered by Butcher, Ball and Ray (1964) in their study of the effects of socioeconomic level on MMPI differences among Black and White college students. This of course raises a question about the meaning of SES differences between ethnic groups. It is clear that careful indices of socioeconomic status devised on White populations do not transfer readily to Black populations because the definition of *status* (i.e., how you are perceived in the eyes of the other) aspects of SES may be dissimilar in different populations. These difficulties were met in part by eliminating from the sample Black subjects for whom equivalent (low) SES matches could not be obtained from among the White sample.

### Measures

*Coping and defense scales.* An early version of the Haan (1965) coping and defense scales designed to measure ego processes and derived from both the MMPI and the California Psychological Inventory (CPI) was administered to subjects. This measure contains 14 scales, consisting of 361 items, that measure a variety of coping and defensive behavior. Scale scores will not be reported since scale reliabilities for the early version of this measure have not been established, as they have been for a new version (Haan, 1977) developed from a substantially different item pool.

*Embedded Figures Test.* The wide range of personality and behavioral correlates of cognitive style has been amply demonstrated (e.g., Witkin & Goodenough, 1977). As an alternative approach to the assessment of personality, a group administrable form of the Embedded Figures Test (EFT) a perceptual-cognitive performance measure (Jackson, Messick, & Myers, 1964), was administered to the subjects along with the SES index and the coping and defense scale items. The group administrable version of the EFT has a .71 reliability with the original individually

administered form.

### Results

#### Item Analysis

Chi-square was computed for each item against the race criterion, observing conventional restrictions on minimum expected frequencies. Of the 361 items, 109 items discriminated between Blacks and Whites at the .05 level of significance, 91 items discriminated at the .01 level, and an additional 84 at the .001 level, for a total of 288 items, or a remarkable 80% of the item pool. This figure is even more astonishing when contrasted with Harrison and Kass' (1967) finding that 39% of MMPI items discriminated between Blacks and Whites, in a study involving a substantially larger sample population, which increased the likelihood of finding significant differences (Bakan, 1966). Race differences in the present study are of a magnitude not yet reported in personality research.

#### Cluster Analysis

To provide an objective, empirical basis for conceptualizing, the items that discriminated between the races at the .01 level of significance or better ( $n = 179$ ) were submitted to a cluster analysis using the multigroup, noncommunality solution designed by Tryon and Bailey (1970). This method produces a direct reflection of the interrelationships within the data without rotation. Eighty-three of the items fell into ten organizations or patterns of items; the clusters exhausted 98% of communality or variance; their reliabilities were reasonable, ranging from .55 to .80, and they were quite independent, despite the fact that orthogonal rotation procedures were not used. The clusters could be labeled without undue conceptual strain. Table 2 presents a summary of the item content for each cluster along with their reliabilities.

#### Cluster Score Differences

Cluster scores were computed for each subject. Table 3 presents the means and standard deviation by race and sex on the clusters and on the EFT. A multivariate analysis of variance (MANOVA)

Table 2  
Summary of Cluster Analysis

Cluster No.	Reliability Coefficient	Content
I.	.85	<i>Social dominance, poise.</i> Expresses ease talking in public, and self-confidence and lack of embarrassment or self-consciousness; descriptions of the self as a good leader and a strong personality (17 items).
II.	.76	<i>Religious belief.</i> Endorsement of tenets of fundamentalist Christian belief, including Biblical miracles, and the second coming of Christ (5 items).
III.	.68	<i>Compulsive orderliness.</i> Expresses a preference for planned and organized activities, uninterrupted routines, and neatness (5 items).
IV.	.74	<i>Self-criticism.</i> Expresses feelings of guilt, self-reproach, discouragement, and a sense of being misunderstood (14 items).
V.	.64	<i>Psychological toughness.</i> Describes a lack of concern of others' opinions about oneself and whether or not one is well-liked (4 items).
VI.	.71	<i>Risk-taking, adventuresomeness.</i> Describes a thrill-seeking orientation as well as a willingness to pursue an interest despite potential dangers; denies many of the common phobias (9 items).
VII.	.73	<i>Power orientation, cynicism.</i> Describes feelings of mistrust or skepticism about motives for others' apparently unselfish behavior; endorses material ambition and a willingness to break the rules in order to achieve goals; values clear-cut options; perceives strength in control of feelings and ability to be decisive (11 items).
VIII.	.65	<i>Psychological vulnerability.</i> Describes sensitivity to criticism, easily hurt feelings, concern over others' opinions, romantic sensibility and timidity (8 items).
IX.	.55	<i>Unconventional morality.</i> Admission of behavior generally considered beyond conventional mores (6 items).
X.	.60	<i>Conformity.</i> Expresses conventional attitudes toward dress, propriety and right and wrong (4 items).

Table 3

Means and Standard Deviations for Cluster Scores

Cluster	Black Males ( <i>n</i> = 41)		Black Females ( <i>n</i> = 56)		White Males ( <i>n</i> = 62)		White Females ( <i>n</i> = 67)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
I.	1.50	.25	1.56	.26	1.29	.20	1.44	.26
II.	1.54	.34	1.69	.33	1.44	.34	1.54	.34
III.	1.59	.31	1.67	.34	1.43	.30	1.46	.31
IV.	1.66	.21	1.62	.22	1.55	.22	1.49	.21
V.	1.57	.31	1.63	.29	1.33	.35	1.30	.32
VI.	1.48	.19	1.25	.18	1.73	.20	1.54	.24
VII.	1.53	.22	1.59	.24	1.36	.23	1.33	.22
VIII.	1.36	.22	1.61	.26	1.54	.24	1.66	.24
IX.	1.58	.27	1.54	.24	1.76	.18	1.56	.24
X.	1.46	.29	1.61	.33	1.38	.31	1.44	.35
EFT	4.00	2.87	3.27	1.92	8.24	7.75	6.07	4.13

for the ten clusters and the EFT scores was performed; results are summarized in Table 4. As recommended by Hummel and Sligo (1971), post-hoc comparisons for the MANOVA were conducted in order to identify the individual de-

pendent variables that contributed to the results of the MANOVA (See Table 5). While the MANOVA, which is a very conservative test, showed no race and sex interaction effects, the post-hoc comparisons showed interaction effects for Clusters 8 and 9, suggesting that while some interaction is present for these two dimensions, the effect is not a powerful one.

In decreasing order of importance for race differences, Blacks reported themselves as more dominant and poised socially, fundamentalist in their religious beliefs, concerned with impulse management, self-critical, psychologically tough, cynical and power oriented, conventional in moral attitudes, and conformist that Whites. Blacks also reported themselves as less adventuresome and likely to take risks, and less vulnerable and tender psychologically (an interaction effect suggests this is particularly true of Black

Table 4  
Summary of  
Multivariate Analysis of Variance

Source	d.f.	<i>F</i>	Sig. Level
Race	11	26.69	.0001
Sex	11	10.36	.0001
Interaction	11	1.36	n.s.
Error	211		

Table 5

Summary of Post Hoc Comparisons for Multivariate Analysis of Variance

Cluster	Source	F	Sig. Level
I. Social Dominance, poise	Race	24.2758*	.0001
	Sex	9.7459	.01
	Race & Sex	2.6973	n.s.
II. Religious belief	Race	7.3921	.01
	Sex	7.2226	.01
	Race & Sex	.3523	n.s.
III. Compulsive orderliness	Race	18.4508	.0001
	Sex	1.6729	n.s.
	Race & Sex	.3555	n.s.
IV. Self-criticism	Race	15.6848	.001
	Sex	3.2453	n.s.
	Race & Sex	.3066	n.s.
V. Psychological toughness	Race	43.1599	.0001
	Sex	.1201	n.s.
	Race & Sex	1.0187	n.s.
VI. Risk-taking, adventuresomeness	Race	92.9942	.0001
	Sex	55.8887	.0001
	Race & Sex	.7597	n.s.
VII. Power orientation, cynicism	Race	49.1185	.0001
	Sex	.2293	n.s.
	Race & Sex	1.5872	n.s.
VIII. Psychological vulnerability	Race	12.2564	.001
	Sex	32.0290	.0001
	Race & Sex	4.0923	.05
IX. Unconventional morality	Race	9.0032	.01
	Sex	14.9232	.001
	Race & Sex	6.1335	.01
X. Conformity	Race	7.8341	.01
	Sex	5.3702	.05
	Race & Sex	1.0212	n.s.
EFT	Race	28.2791	.0001
	Sex	4.7850	.05
	Race & Sex	1.1723	n.s.

\* d.f. for all tests is 1 and 222.



males) than Whites. White males more frequently admitted to behavior generally considered beyond conventional sexual and ethical mores. Females, regardless of race, reported themselves as more religious, conventional in moral attitudes, and conformist than men, and less confident socially and less likely to take risks.

Whites scored significantly higher than Blacks on the measure of cognitive differentiation, the EFT, and consistent with previous research (Witkin, Faterson, Goodenough, & Karp, 1962) men, without regard to race, scored higher than women. Correlations between the EFT and cluster scores ranged from  $-.21$  to  $.17$ . Although a number of these correlations achieved significance, they accounted for so little variance as to render speculative inferences concerning the relationship between facets of personality presumably reflected by the clusters and field articulation as measured by the EFT. One finding of interest, however, is that EFT scores and cluster scores correlated in opposite directions for Blacks and Whites on 7 out of 10 clusters, suggesting that the personality and behavioral correlates associated with field-dependence or field independence may well be different for the two races.

### *Discussion*

A striking finding of this study is the sheer magnitude of race differences; while substantial Black-White differences have been reported in the literature, variance of this size has not. Another noteworthy result is that when familial socioeconomic status and years of education are equivalent for Blacks and Whites, important race differences remain. It has long been argued that differences between Blacks and Whites are primarily the result of disparities in education and socioeconomic status, implying the corollary notion that given an extended period of equality of opportunity for Blacks, race differences will diminish or disappear altogether. These data do not support this argument, and moreover provide evidence that the strong socialization impact of higher education does not vitiate what appears to be enduring race differ-

ences in personality.

The young Black subject emerges in this investigation as assertive, poised, outspoken, tough-minded, power oriented, and somewhat skeptical and cynical; it is a person who is determined to get ahead, values action, tends not to show emotions, and is not easily hurt or readily put down. This particular psychological stance does seem, however, to extract a price in the form of a certain lack of flexibility, cautiousness, and a tendency not to take risks, as well as a proclivity toward self-criticism and feelings of guilt. To this description can be added traditionalism in matters of religious belief, conventionality in moral attitudes, and conformity to social mores.

Further evidence for Black-White differences in personality processes is the greater field-dependence of Black subjects. The disparity in field-dependence — independence between the two races in this study surpasses the by now well established and predictable finding of sex differences in cognitive style. Witkin and Goodenough (1977), in their review of behavioral and personality correlates of field-dependence, state that field-dependent people, in contrast to the more field-independent, make greater use of external social referents in ambiguous situations and in general tend to be more attentive to social cues, have a strong interpersonal orientation, incline to be emotionally more open and gravitate to social situations, and often have greater social skills. Although this description complements in some respects the characterization of Black subjects obtained by self-report measure in the present study, these traits can be generalized to Blacks only with caution, since correlations of EFT scores and personality clusters, though modest in size, were usually in opposite directions for Black and White subjects. It is possible the personality implications of field dependence may vary for Blacks and Whites.

Gynther (Note 1), in his recent review of ethnicity and personality, points out that several studies that undertook a multivariate analysis of MMPI items differentiating Blacks and Whites found that the principal factor distinguishing

the races was (alternately named) estrangement, distantiation, or mistrust of society, on which Blacks obtained significantly higher scores. The suggestion is that this difference is the result of Blacks' disadvantaged position in society, the "mark of oppression" (Kardiner & Ovesey, 1951). This interpretation ventures perilously close to the pitfall of stereotypy. A very different, more balanced and differentiated picture of Black personality presents itself in this study. It is, in short, a portrait of a person who is not alienated from society, but is rather very much, psychologically speaking, in the system.

The discrepancy between these findings and those reported by other researchers may in part lie in the nature of the assessment instrument employed. The estrangement factor reported in other studies could very well be an artifact of the pathological orientation of many MMPI items, as Gynther speculates. Clearly an element resembling estrangement emerges in this study in the greater tendency to self-reproach and sense of being misunderstood expressed by Blacks. However, the CPI items in the pool (more than half the items that fell into clusters were from the CPI) provided the opportunity to tap other, more normal aspects of functioning, and allowed a more balanced picture to emerge, one that puts the estranged-appearing element into perspective. The present findings may also differ from those reported elsewhere because this sample consists of normal young adults, in contrast to the sample of psychiatric populations and medical patients typically used in other studies.

This brings into question the tendency to view Blacks as a homogeneous group, without due regard to geographic, environmental, and generational differences. There are undeniably certain common qualities in the experience of race, certain mutually shared experiences that are the result of a more-or-less shared common culture and life conditions. But it seems that the tremendous variation in the learning contexts of Black Americans, with their wide-ranging ramifications for personality formation, are fre-

quently underestimated. What all Blacks share, and what is likely to be different, and to what degree, remains to be specified. While fundamental personality differences between Blacks and Whites appear to exist, generalizations must as a consequence be qualified with reference to the specific characteristics of the population under investigation.

#### Reference Note

1. Gynther, M. D. *Ethnicity and Personality: Recent findings*. Paper presented at the 12th Annual MMPI Symposium, St. Petersburg, Florida, February, 1977.

#### References

- Bakan, D. The test of significance in psychological research. *Psychological Bulletin*, 1966, 66, 423-437.
- Baratz, S., & Baratz, J. Early childhood intervention: The social science base of institutional racism. *Harvard Educational Review*, 1970, 40, 29-50.
- Butcher, J., Ball, B., & Ray, E. Effects of socioeconomic level of MMPI differences in Negro and white college students. *Journal of Counseling Psychology*, 1964, 11, 83-87.
- Costello, R., Fine, H., & Blau, B. Racial comparisons on the MMPI. *Journal of Clinical Psychology*, 1973, 29, 63-65.
- Costello, R., Tiffany, D., & Grier, R. Methodological issues and racial comparisons on the MMPI. *Journal of Consulting and Clinical Psychology*, 1972, 38, 161-168.
- Davis, W. E. Race and the differential "power" of the MMPI. *Journal of Personality Assessment*, 1975, 39, 138-140.
- Davis, W. E., & Jones, M. H. Negro vs. Caucasian psychological test performance revisited. *Journal of Consulting and Clinical Psychology*, 1974, 42, 675-679.
- Dreger, R. M., & Miller, K. S. Comparative psychological studies of Negroes and Whites in the United States, 1959-1965. *Psychological Bulletin*, 1968, 70(3, Pt. 2).
- Edwards, D. Black versus White: When is race a relevant variable? *Journal of Personality and Social Psychology*, 1974, 29, 39-49.
- Gurin, P., Gurin, G., Lao, R. C., & Beattie, M. Internal-external control in the motivational dynamics of Negro youth. *Journal of Social Issues*, 1969, 25, 29-53.
- Guthrie, R. *Even the rat was white*. New York: Harper and Row, 1976.
- Gynther, M. D. White norms and black MMPI's: A prescription for discrimination? *Psychological Bulletin*, 1972, 78, 386-402.
- Haan, N. Coping and defense mechanisms related to personality inventories. *Journal of Consulting Psychology*, 1965, 29, 373-378.

- Haan, N. *Coping and defending*. New York: Academic Press, 1977.
- Harrison, H. H., & Kass, E. H. Differences between Negro and white pregnant women on the MMPI. *Journal of Consulting Psychology*, 1967, 31, 454-463.
- Harrison, H. H., & Kass, E. H. MMPI correlates of Negro acculturation in a northern city. *Journal of Personality and Social Psychology*, 1968, 10, 262-270.
- Hayes, W. A., & Banks, W. M. The nigger box or a redefinition of the counselor's role. In R. L. Jones (Ed.), *Black psychology*. New York: Harper & Row, 1972.
- Hess, R. D. Social class and ethnic influences on socialization. In P. H. Mussen (Ed.), *Carmichael's manual of child psychology*. (3rd ed.), New York: Wiley, 1970.
- Hollingshead, A., & Redlich, F. *Social class and mental illness: A Community Study*. New York: Wiley, 1958.
- Hummel, T., & Sligo, J. Empirical comparison of univariate and multivariate analysis of variance procedures. *Psychological Bulletin*, 1971, 76, 49-57.
- Jackson, D., Messick, S., & Myers, C. Evaluation of group and individual forms of embedded-figures measures of field-independence. *Educational and Psychological Measurement*, 1964, 24, No. 2.
- Jones, E. E. Race comparisons in psychological research. In press, *Journal of Social Issues*.
- Kardiner, A., & Ovesey, L. *The mark of oppression*. New York: World, 1951.
- Miller, C., Knapp, S. C., & Daniels, C. W. MMPI study of Negro mental hygiene clinic patients. *Journal of Abnormal Psychology*, 1968, 73, 168-173.
- Nobles, W. Psychological research and the black self-concept: A critical review. *Journal of Social Issues*, 1973, 29, 11-31.
- Panton, J. H. Inmate differences related to recidivism, age and race as measured by the MMPI. *Journal of Correctional Psychology*, 1959, 4, 28-35.
- Sattler, J. Racial 'experimenter effects' in experimentation, interviewing and psychotherapy. *Psychological Bulletin*, 1970, 73, 2, 137-160.
- Tryon, R., & Bailey, P. *Cluster analysis*. New York: McGraw-Hill, 1970.
- Witkin, H., Dyk, R., Faterson, H., Goodenough, D., & Karp, S. *Psychological differentiation*. New York: Wiley, 1962.
- Witkin, H., & Goodenough, D. Field dependence and interpersonal behavior. *Psychological Bulletin*, 1977, 84, 661-689.
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## A Measure of Autonomy

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**Summary:** This article reports the development of a measure of individual differences in autonomous rule compliance. The autonomy scale (a short, easily administered CPI based test) was developed within the framework of a multidimensional, role-theoretical model of moral development. Five samples were used in the construction of the scale. Two of the samples (total  $n = 111$ ) were used to derive the autonomy scale. The items for the scale were derived through the sequential use of two common item selection strategies: criterion keying and factor analysis. An initial set of 55 CPI items were derived using an "ideal" autonomy Q-sort profile as a selection criterion, and an Alpha factor solution was used to reduce this initial pool to a final set of 25 items. Several analyses were conducted using three additional samples (total  $n = 245$ ) to estimate the reliability of the scale and determine its validity. The results of these analyses provide initial evidence for the content, criterion-related, and construct validity of the scale and indicate that the measure has an adequate reliability.

Autonomy, as a dimension of character and personality, is a persistent theme in psychology (e.g., Erikson, 1950; Jung, 1933; McDougall, 1908; Murray, 1938). Recent research in the area of moral development further calls attention to the characterological implications of interpersonal independence. More specifically, Hogan (1969, 1973, 1976) has proposed a multidimensional, role-theoretical model of moral development which includes a dimension of autonomous rule compliance. The complete model consists of five dimensions of moral character (socialization, empathy, autonomy, moral knowledge, and moral reasoning) which formally define five types of relationships that exist between the individual and the social group's social and moral rules. Each dimension constitutes a conceptually independent set of dispositions and attitudes towards rules and rule systems. Three of the model's dimensions (socialization, empathy, and moral reasoning) have been operationalized (cf. Gough, 1969; Gough & Peterson, 1952; Greif & Hogan, 1973; Hogan, 1969, 1970). Each dimension can be assessed by a short, easily administered objective test. The scales have adequate psychometric properties and the three operationalized

dimensions have demonstrated an empirical utility. For example, empathy and socialization have been shown to be related to both pro- and anti-social behavior (cf. Hogan, Mankin, Conway, & Fox, 1970; Kurtines & Hogan, 1972; Kurtines, Hogan & Weiss, 1975); and moral reasoning has been shown to be associated with the perception of injustice, rated moral maturity, and sensitivity to injustice (cf. Hogan, 1970; Hogan & Dickstein, 1972b).

In an earlier study, Kurtines (1974) reported some evidence for the utility of the concept of autonomy in the study of social behavior and described some characteristics of the autonomous individual. This article reports the development of an empirically keyed, factorially derived scale designed to measure individual difference in autonomous rule compliance and presents evidence for the utility of the concept of autonomy as a dimension of moral conduct. The scale, a short, easy to administer objective test, was developed within the framework of Hogan's (1973) multidimensional model of moral development.

### Method

#### Subjects

Five samples were used in the development of the autonomy scale. The first included military officers ( $n = 100$ ), the second contained student engineers ( $n = 66$ ), the third research scientists ( $n = 45$ ), the fourth undergraduate fraternity mem-

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bers ( $n = 30$ ), and the fifth undergraduate psychology students ( $n = 115$ ). Some of the data used for this study was originally collected as part of the live-in assessment program carried on at the University of California's Institute of Personality Assessment and Research (IPAR).<sup>1</sup> Information on each participant in the first three samples included complete item responses to the California Psychological Inventory (CPI; Gough, 1969). In addition, a *Q*-sort description (Block, 1961) of each individual studied at the institute was available. The *Q*-description consisted of a composite profile derived from 10 independent ratings of each person in the samples by the assessment staff at IPAR. The fourth sample ( $n = 30$ ) was made up of undergraduate fraternity members at the Johns Hopkins University. Information on the fourth sample consisted of item responses to the CPI, peer ratings for autonomy, and an assortment of biographical and interview data. The fifth sample consisted of 115 undergraduate students at Florida International University who were administered the CPI as part of a psychology course on tests and measures.

#### *Item Selection Criterion*

The first step in the construction of the scale consisted of selecting a criterion for item derivation. Kurtines (1974) previously reported the development of an "ideal" autonomy *Q*-sort profile. This autonomy *Q*-sort profile, compatible with the concept of autonomy as defined by Hogan's model, was developed using a specially prepared 76 item version of the California *Q*-sort (Block, 1961). Twenty raters were asked to describe their conception of the autonomous individual, and a composite profile was constructed by combining the 20 descriptions. The estimated reliability of the total composite was .91. This composite profile, with its established reliability and content validity, served as the item selection criterion in the development of the autonomy scale.

#### *Item Selection*

The items for the autonomy scale were derived through the sequential use of two common item selection strategies: criterion keying and factor analysis. For the first phase of the item selection, the sample of research scientists ( $n = 45$ ) and the sample of student engineers ( $n = 66$ ) were combined to form a derivation sample ( $n = 111$ ). Each participant in the derivation sample was assigned an autonomy score on the basis of the correlation between his composite *Q*-sort description and the ideal autonomy *Q*-sort profile. An initial set of items was selected by correlating CPI item responses with the criterion composite score. The obtained correlations ranged from +.22 to -.21. Fifty-five CPI items whose correlations with the criterion exceeded .11 in either a positive or negative direction were selected for use as an initial set of autonomy items.

For the second phase of the item selection, the set of 55 items derived using criterion keying was factor analyzed using an Alpha solution and an oblique rotation. The purpose of the factor analysis was to reduce further the item pool and increase the reliability of the derived scale. Since criterion keying serves to maximize the criterion-related validity of the items but not their internal consistency, the factor analysis provided a method for isolating the most homogeneous subset of items contained in the item pool derived through criterion correlations. A factor analysis was used instead of the more traditional technique of item-total correlations because, as will be seen, this method provides an estimate of the relation between the various factor dimensions in the item set and the criterion variable. Both item responses and the criterion composite scores of the derivation sample were included in the factor analysis. An Alpha solution was used to maximize the internal consistency of the obtained factors and an oblique rotation used to maximize their empirical independence.

The Alpha solution yielded five factors with an eigenvalue greater than 2.0. This five factor solution was then rotated using an oblique procedure. The rotated factor

<sup>1</sup> The author thanks Harrison G. Gough and Wallace B. Hall at the Institute of Personality Assessment and Research for making the data on the military officers, student engineers, and research scientists available.

matrix accounted for 26.4% of the total variance and each of the factors respectively accounted for 8.9, 4.9, 4.5, 4.3, and 3.8 percent of the total factor variance. The first factor was used in the selection of the final set of autonomy scale items. Several considerations justify this action. First, while not large by absolute standards, this factor was the largest factor in the matrix and it accounted for nearly twice as much variance as any other single factor. Second, the autonomy criterion composite loaded above .30 on the first factor (+.56), but not on any of the other factors. Third, the first factor was the most interpretable in terms of content. Since the purpose of the factor analysis was to isolate a comparatively homogeneous subset of items, the relative content homogeneity of the highest loading items provided evidence for the utility of the approach. The 25 items with an absolute loading above .30 on the first factor were selected for the final autonomy scale. The 25 CPI items along with the direction of scoring (8 true and 17 false) are listed below:

*Scoring of items from CPI.* 8 (f), 11 (f), 40 (f), 63 (t), 78 (f), 108 (t), 119 (t), 145 (f), 150 (f), 155 (f), 159 (f), 194 (t), 198 (f), 214 (f), 237 (f), 274 (t), 314 (f), 317 (f), 318 (t), 320 (t), 332 (t), 395 (f), 421 (t), 457 (t), 462 (f).

### *Reliability and Validity*

A visual inspection of the final set of items, and an examination of the item statistics used to derive the scale provide evidence for the content validity of the scale. For example, the item with the highest positive correlation with rated autonomy for the derivation sample was, "I would be willing to describe myself as a pretty 'strong' personality." The item with the highest negative correlation with rated autonomy was, "People can pretty easily change me even though I thought that my mind was already made up on a subject." The two highest loading items on the factor analysis (both negative) were respectively, "Criticism or scolding makes me very uncomfortable" and "People can pretty easily change me even though I thought that my mind was already made up on a subject."

Two follow-up analyses provide an estimate of the reliability of the scale and some initial evidence for its criterion-related validity. For the first analysis, the item responses of the 100 military officers were scored for the final set of items and autonomy scale scores correlated with rated autonomy for this sample. Autonomy ratings were obtained by correlating each participant's Q-sort profile with the composite autonomy Q-sort profile. The reliability of the autonomy scale for this sample, as estimated by Hoyt's analysis of variance method (Hoyt, 1941), was .61; the correlation between scale scores and rated autonomy was  $.21, p < .05$ . For the second analysis, the CPI protocols for the 30 fraternity members were scored for the autonomy scale and scale scores correlated with rated autonomy. All fraternity members lived in the same house and autonomy ratings were based on peer evaluations (cf. Kurtines, 1974 for details). The autonomy scale reliability estimate for this sample was .63, the correlation between scale scores and rated autonomy was  $.54, p < .01$ . The results of these analyses thus provide an estimate of the reliability of the scale and evidence for its criterion-related validity. The average reliability for the scale for both samples was .62, and scale scores correlated significantly and positively with both autonomy rating criteria.

A third analysis provides evidence for the construct validity of the scale. According to Hogan's (1973) model, socialization, empathy, and autonomy represent three conceptually and empirically independent dimensions of moral character. Evidence for the empirical independence of the autonomy scale was obtained by correlating autonomy scores with socialization and empathy scores. For this analysis, the CPI protocols for the sample of undergraduate psychology students ( $n = 115$ ) were scored for socialization, empathy, and autonomy. The reliability of the autonomy scale for this sample was .59. Scores on all three of the scales were intercorrelated yielding the following coefficients: Autonomy with socialization .08, autonomy with empathy .12, empathy with socialization .09. The results of this analysis thus provide some

evidence for the empirical as well as conceptual independence of the dimensions. Although there was a slight positive correlation between autonomy and empathy, the intercorrelations between all of the scales were nonsignificant.

The results of some interview data in combination with the peer ratings for autonomy in the fraternity sample provide additional qualitative evidence for the validity of the autonomy scale. Part of the research project conducted with the fraternity sample involved the collection of interview data on the participants. The results of the interviews shed some light on the personological characteristics of low and high scorers on the autonomy scale. Persons with the lowest ratings for autonomy were also judged, in terms of their interview results, to be mildly anxious, lacking in self-confidence, and unsure of their goals in life. High scorers, on the other hand, tended to be rated as relatively free from anxiety, lacking in dependency problems, and having well defined goals. While tentative, these findings provide indirect and qualitative evidence concerning the personality correlates of autonomy.

### Discussion

This paper describes the development of a short, easy to administer CPI based scale intended to assess individual differences in autonomous rule compliance. The scale was developed within the framework of a multidimensional model of moral development concerned with several parameters of rule governed behavior. Data relating to the content, criterion-related, and construct validity of the scale, as well as reliability, were presented. Overall, the results of the research provide initial evidence for the validity of the scale. The results of the item analysis and a visual inspection of the items provide evidence for the content validity of the scale. Evidence for the criterion-related validity of the autonomy scale was obtained using ratings as a criteria. Scale scores correlated positively and significantly with rated autonomy for two separate samples using two rating criteria. Scores on the autonomy scale are also essentially uncorrelated with the other operationalized dimensions

of Hogan's model, providing evidence for the construct validity of the scale. Moreover, the average reliability of the scale across three samples was .61, suggesting that the scale has an adequate reliability. Finally, according to the model, rule compliance — as a dimension of moral conduct — can be best understood within the more general context of rule governed behavior. Each of the dimensions of the model, considered by itself, constitutes a conceptually independent set of disposition and attitudes towards social and moral rule systems and, consequently, can be expected to be differentially predictive of various types of rule governed behavior. Thus, while the research reported in this paper provides evidence for the utility of the concept of autonomy as a separate dimension of moral conduct, additional research is needed to determine the differential validity of the complete model.

### References

- Block, J. *The Q-sort method in personality assessment and psychiatric research*. Springfield, Ill.: Charles C. Thomas, 1961.
- Erikson, E. H. *Childhood and society*. New York: Norton, 1950.
- Gough, H. G. *Manual for the California Psychological Inventory* (3rd ed.). Palo Alto, Calif.: Consulting Psychologists Press, 1969.
- Gough, H. G., & Peterson, D. R. The identification and measurement of predispositional factors in crime and delinquency. *Journal of Consulting Psychology*, 1952, 16, 207-212.
- Greif, E. B., & Hogan, R. The theory and measurement of empathy. *Journal of Counseling Psychology*, 1973, 20, 280-284.
- Hogan, R. Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, 1969, 33, 307-316.
- Hogan, R. A dimension of moral judgment. *Journal of Consulting and Clinical Psychology*, 1970, 35, 205-212.
- Hogan, R. Moral conduct and moral character: A psychological perspective. *Psychological Bulletin*, 1973, 79, 217-232.
- Hogan, R. *Personality theory: The personological tradition*. Englewood Cliffs, N. J.: Prentice-Hall, 1976.
- Hogan, R., & Dickstein, E. A measure of moral values. *Journal of Consulting and Clinical Psychology*, 1972, 39, 210-214. (a)
- Hogan, R., & Dickstein, E. Moral judgment and the perceptions of injustice. *Journal of Personality and Social Psychology*, 1972, 22, 409-413. (b)

Hogan, R., Mankin, D., Conway, J., & Fox, S. Personality correlates of undergraduate marijuana use. *Journal of Consulting and Clinical Psychology*, 1970, 35, 58-63.

Hoyt, C. J. Test reliability estimated by analysis of variance. *Psychometrika*, 1941, 19, 31-39.

Jung, C. G. *Modern man in search of a soul*. New York: Harcourt Brace, 1933.

Kurtines, W. Autonomy: A concept reconsidered. *Journal of Personality Assessment*, 1974, 38, 243-246.

Kurtines, W., & Hogan, R. Sources of conformity in unsocialized college students. *Journal of Abnormal Psychology*, 1972, 80, 49-51.

Kurtines, W., Hogan, R., & Weiss, D. Personality dynamics of heroin use. *Journal of Abnormal Psychology*, 1975, 84, 87-89.

McDougall, W. *Social Psychology*. London: Methuen, 1908.

Murray, H. A. *Explorations in personality*. New York: Wiley, 1938.

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## Adjective Correlates for Women on the CPI Scales: A Replication

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*Summary.* In a replication of a ten-year-old study by Gough, peer-rated adjectives from the Adjective Check List were correlated with scores on the 18 standard scales of the California Psychological Inventory (CPI) for 95 college sorority members. For each scale, the ten most positively and negatively correlated adjectives were selected for comparison with Gough's results. The absolute magnitude of the correlations, the qualitative content of the adjectives, and the degree of correspondence with Gough's findings were used to assess the extent to which each CPI scale achieved its stated objective.

The interpretation of multi-scale personality tests provides a challenge for even the most experienced clinician or counselor. This is especially true for the California Psychological Inventory (CPI) which has 18 standard scales (Gough, 1969). To facilitate interpretation of the CPI, Gough (1968) has obtained adjectives descriptive of high and low scorers on each of the 18 scales by correlating peer ratings on 300 adjectives with scale scores for separate samples of males and females. The resulting adjective lists are featured in the interpreter's syllabus (Gough, 1968), an appendix of the CPI Handbook (Megargee, 1972), and the CPI Manual (Gough, 1969). There can be little doubt that, directly or indirectly, these adjective lists play a prominent role in the clinical interpretation of the CPI.

The purpose of this study was to derive adjective correlates for a new sample of women on the 18 CPI scales. This replication of Gough (1968) was thought desirable for three reasons. First, since the original study involved an 18 x 300 correlation matrix, it is likely that some of the obtained correlations were spurious. Replication thus serves the purpose of determining which adjectives are reliably associated with high or low scale scores. The second justification is that at least ten years have passed since the original study, and it seems possible that social changes have altered the relationship between scale scores and peer rated personality characteristics. For example, it is conceivable that the women's movement

has caused women scoring high on the Femininity scale to be seen in a different light by their peers. Thus, replication serves as a means of checking for significant changes in the social stimulus value of high or low CPI scale scores. The third purpose of the study was to determine the absolute magnitude of the correlations between the peer-rated adjectives and the CPI scales. As noted by Megargee (1972, p. 124), it is a significant omission that Gough (1968) did not list the actual values of the correlations for his adjective lists. This makes it impossible to know whether the relationship between a CPI scale and a peer-rated adjective is strong or weak. In some cases, a listed "relationship" might be statistically indistinguishable from no relationship at all.

### Method

#### *Subjects and Procedure*

The study was a direct replication of Gough (1968). Ninety-five members of four sororities at the University of Idaho served as subjects. Most were freshmen or sophomores; their ages ranged from 19 to 22 years. The CPI was administered in groups of 20 to 25. Next, each subject listed seven of her sorority sisters who knew her well and five of these were randomly selected to rate her on the Adjective Check List (ACL, Gough & Heilbrun, 1965). The peer raters were informed that their evaluations would be kept confidential. The instructions for the ACL were modified to suit peer evaluation; each rater read the 300 adjectives, check-

Table I  
Mean and Standard Deviation for  
for 95 College Sorority Members on the 18 Scales of the CPI

Scale	<i>Do</i>	<i>Cs</i>	<i>Sy</i>	<i>Sp</i>	<i>Sa</i>	<i>Wb</i>	<i>Re</i>	<i>So</i>	<i>Sc</i>
M	54.0	47.1	51.9	53.8	57.1	43.3	43.4	46.2	41.0
SD	11.8	10.9	9.8	11.0	10.9	12.0	8.7	8.4	10.0
Scale	<i>To</i>	<i>Gi</i>	<i>Cm</i>	<i>Ac</i>	<i>Ai</i>	<i>Ie</i>	<i>Py</i>	<i>Ex</i>	<i>Fe</i>
M	45.7	40.1	49.8	44.7	49.8	46.1	49.4	56.4	49.4
SD	10.9	8.8	10.5	10.4	10.7	10.1	9.1	9.8	10.1

ing those adjectives which were descriptive of the subject, and double checking adjectives felt to be especially descriptive.

#### Data Analysis

For each subject, the experimenter assigned one point for a single check and two points for a double check for each of the 300 adjectives. Since there were five raters, this yielded a score between 0 and 10 for each adjective. Next the Pearson  $r$  was computed between each adjective score and each of the 18 standard CPI scale scores. This yielded an  $18 \times 300$  correlation matrix. For each CPI scale the ten adjectives with the strongest positive and negative correlations were identified and listed separately.

#### Results and Discussion

Each CPI profile was checked clinically for signs of random responding or dissimulation by examining scores on the three validity scales: Good Impression (*Gi*), Well Being (*Wb*), and Communality (*Cm*). There were no profiles where *Gi* exceeded a T score of 70. While *Wb* was below a T score of 30 in 11 cases, brief interviews indicated that this was the result of an overemphasis upon worries and problems rather than overt "fake bad" orientation. None of the students had a T score on *Cm* of 15 below, which is the cut-off suggested by Gough (1968) for identifying random or uninterpre-

table profiles. The average and standard deviation for each CPI scale are listed in Table I.

From the ten adjectives with the strongest positive and negative correlations, those which appear both in this research and Gough's are listed for each CPI scale in Table 2.<sup>1</sup>

The total number of correlations significant at the .01 level or better was 279. This was far in excess of the chance expectation of 54 ( $.01 \times 18 \times 300$ ) and indicates that some of the variance in underlying personality traits is reflected in CPI scale scores. On the other hand, there was wide variability between CPI scales in the magnitude of the correlations, the apparent "appropriateness" of the correlated adjectives, and the degree of correspondence with Gough's (1968) findings. These points will be discussed briefly in a scale analysis.

**Dominance (*Do*).** *Dominant* was, appropriately, the only positively correlated adjective common to this study and Gough's. *Shy*, *submissive*, and *cautious* replicated for negative correlations. The content of these adjectives and the magnitude of their correlations tend to confirm the stated purpose of the *Do* scale: "To assess factors of leadership ability, dominance, persistence, and social initiative."

<sup>1</sup> The entire list of correlated adjectives can be obtained by writing to the first author.

Table 2

Positively and Negatively Correlated Adjectives Which Replicate Gough

	Dominance	<i>r</i>	Capacity for Status	<i>r</i>	Sociability	<i>r</i>
Positive Correlations	1. dominant	.34	1. versatile .31 2. clear-thinking .26		1. dominant .33 2. sociable .32	
Negative Correlations	1. shy -.39 2. submissive -.34 3. cautious -.30		1. shy -.32 2. meek -.28 3. timid -.28		1. shy -.40 2. meek -.39 3. timid -.32 4. quiet -.31	
	Social Presence	<i>r</i>	Self Acceptance	<i>r</i>	Well Being	<i>r</i>
Positive Correlations	1. versatile .34 2. witty .29 3. adventurous .29		1. dominant .35		1. calm .26	
Negative Correlations	1. timid -.45 2. submissive -.38 3. sensitive -.34		1. shy -.35			
	Responsibility	<i>r</i>	Socialization	<i>r</i>	Self Control	<i>r</i>
Positive Correlations	1. reasonable .31 2. conscientious .31		1. cautious .37 2. reasonable .32 3. reliable .31		1. calm .34 2. peaceable .31 3. patient .31 4. self-controlled .21	
Negative Correlations	1. lazy -.29		1. peculiar -.26 2. reckless -.24			
	Tolerance	<i>r</i>	Good Impression	<i>r</i>	Communality	<i>r</i>
Positive Correlations	1. mature .25 2. calm .25 3. self-controlled .19		1. peaceable .33 2. patient .20			
Negative Correlations			1. pessimistic -.31 2. moody -.23		1. indifferent -.20	
	Achievement Via Conformance	<i>r</i>	Achievement Via Independence	<i>r</i>	Intellectual Efficiency	<i>r</i>
Positive Correlations			1. mature .26 2. intelligent .23		1. clear thinking .35	
Negative Correlations			1. immature -.24 2. foolish -.21		1. pessimistic -.39 2. nervous -.36	

Continued next page.

A comparison of Gough's findings and those of the current study revealed dramatic changes in the qualitative nature of the positively correlated adjectives. In addition to *dominant*, Gough's positively correlated adjectives included *ag-*

*gressive, bossy, conceited, confident, demanding, forceful, quick, strong, and talkative*. In short, Gough found that high *Do* women tended to be characterized in rather distinctly unfavorable terms by their peers (a veritable stereo-

Table 2 (cont'd)

	Psychological Mindedness		Flexibility		Femininity	
Positive Correlations	1. independent	.30			1. mature	.22
	2. self-confident	.28			2. self-controlled	.21
	3. capable	.23				
	4. ingenious	.21				
Negative Correlations					1. touchy	-.27

type of the unpleasantly dominant female). The current study lends no support to a negative conception of high dominance in women (Ten most positively correlated adjectives: *intelligent, dominant, versatile, enterprising, self-confident, ambitious, determined, clever, courageous, mature*.) An analysis and interpretation of this apparent change in the meaning of high dominance in women is offered in Morris & Gregory (Note 1).

**Capacity for status (Cs).** This scale "attempts to measure the personal qualities and attributes which underlie and lead to status." The replicated adjectives with positive correlations (*versatile, clear-thinking*) are appropriate for this purpose, while many of the more highly correlated but new adjectives (*methodical, capable, and particularly ambitious*) corroborate that high scores on Cs are related to appropriate personality traits. The replicated adjectives with high negative correlations, *shy, meek, and timid*, suggest a factor of general maladjustment rather than any specific lack of capacity for status.

**Sociability (Sy).** The Sy scale attempts to "identify persons of outgoing, sociable, participative temperament." With *dominant*, and *sociable* as replicated correlates, and the new adjective *outspoken* appearing at the top of the list with a moderately strong correlation of .38, it is clear the Sy scale is appropriately named.

Low scores on Sy appear to reflect factors of introversion (with replicated adjectives, *shy, meek, timid, and quiet*) and general maladjustment.

**Social presence (Sp).** The Sp scale is supposed to "assess factors such as poise, spontaneity, and self-confidence

in personal and social interaction." The most highly correlated adjective, *versatile*, which also appeared on Group 1, sort is somewhat of a puzzle in this context. While this correlate is not inconsistent with the avowed purpose of the scale, it appears to indicate that a characteristic of "competence in many things" is also associated with high Sp scores. The other positively correlated adjectives, including Group 1's *active, independent, and the new adjectives noisy, talkative, strong, dominant, aggressive, loud, and self-confident*, adopt other pictures as largely verbal forms of social presence.

Low scores on Sp showed the highest magnitude of relationship with the 13jectives of all the scales on the CPI. Ten adjectives, *submissive, sensitive, and meek*, repeated their appearance as negatively correlated adjectives, while the remainder of the list, divided up into two groups with correlations of  $r = .49$  and  $r = .60$ , on a strong relationship between low scores on Sp and extreme dislike, *hostile and introversion*.

**Self-acceptance (Sa).** Self-acceptance showed only one replication of positive correlate, *dominant*, and a moderately strong negative correlate, *shy*. However, the remaining correlated adjectives showed relationships of moderately strong magnitudes, including *methodical, capable, and meek* ( $r = .42$ ). Moreover, the content of the adjectives was consistent with the avowed goal of the scale, for "factors such as sense of personal worth, self-acceptance, and capacity for independent thinking and action."

**Well-being (W).** W was devised to discriminate individuals to young persons from normals and psychiatric patients



responding truthfully, that is, it was originally designed as a validity scale. Gough (1968) also notes that it can be used to "identify persons who minimize their worries and complaints, and who are relatively free from self-doubt and disillusionment." From a comparison of the magnitudes of the positive and negative correlations, it would appear that *Wh* does much better with the opposite of its stated purpose: that is, low scores on the *Wh* are quite strongly associated with lack of well-being while high scores are not strongly indicative of anything. Even though *calm* and *mature* appeared on both this list and Gough's, neither shows a correlation of high magnitude.

**Responsibility (Re).** *Re* revealed very appropriate replications, with *reasonable* and *conscientious* on the positive side, and *lazy* on the negative. The remaining adjectives were generally highly appropriate for a scale which purports to "identify persons of conscientious, responsible, and dependable disposition and temperament."

**Socialization (So).** The goal of the *So* scale is to "indicate the degree of social maturity, integrity, and rectitude which the individual has attained." All of the positively correlated adjectives indicate that this goal has been achieved including the three which repeat from Gough's analysis: *cautious*, *reasonable*, and *reliable*. The negatively correlated adjectives showed a generally weak degree of relationship. This includes the two replicated adjectives, *peculiar* and *reckless*.

**Self-control (Sc).** The *Sc* scale received a rather strong endorsement by way of the four replicated adjectives: *calm*, *peaceable*, *patient*, and *self-controlled*. These adjectives constitute an excellent description of the self-controlled person. Gough's stated goal was to "assess the degree and adequacy of self-regulation and self-control and freedom from impulsivity and self-centeredness." With respect to the meaning of high scores, this goal appears to have been met. On the other hand, it is implicit in the purposes of the *Sc* scale that low scores should be associated with impulsiveness and self-centeredness, an expectation that is not borne out by the ten most negatively correlated adjectives.

These adjectives reflect a wide variety of maladjustment, but nowhere in the list is there any indication of impulsivity or self-centeredness.

**Tolerance (To).** Even though three adjectives repeated from Gough's analysis (*mature*, *calm*, and *self-controlled*) the magnitude of all the positive correlations was sufficiently low that little meaning can be attached to high scores on the *To* scale. With this sample, the stated purpose of identifying "persons with permissive, accepting, and nonjudgmental social beliefs and attitudes" appears not to have been fulfilled.

Low scores on *To*, while not related to intolerance per se, appear to reflect a wide gamut of traits indicative of maladjustment.

**Good impression (Gi).** The original purpose of the *Gi* scale was to identify dissimulated test results, although the scale is also meant to "identify persons capable of creating a favorable impression, and who are concerned about how others react to them." Considering that only one positively correlated and one negatively correlated adjective reached the .01 level of statistical significance and that neither of them is particularly appropriate for the aims of the scale (*peaceable*, and *pessimistic*, respectively), it would appear that *Gi* is not a highly successful personality scale. On the other hand, the appearance of *peaceable* ( $r = .33$ ) and *pessimistic* ( $r = .31$ ) replicates Gough, suggesting that these particular peer-rated traits are reliably if only moderately associated with high scores on *Gi*.

**Communality (Cm).** This is a validity scale designed to detect protocols on which the respondent has answered in a random fashion. In light of the purpose of the scale, it is neither surprising nor disappointing that none of the adjectives, positively or negatively correlated, achieved statistically meaningful levels of association ( $p < .01$ ).

**Achievement via conformance (Ac).** This scale attempts to "identify those factors of interest and motivation which facilitate achievement in any setting where conformance is a positive factor." The term "conformance" was carefully chosen to reflect an appreciation of structure

and organization, and to avoid the negative connotations of "conformity."

*Ic* showed moderately strong associations with a large number of adjectives on both the positive and negative side, although none repeated from Gough's analysis. Among the positive correlations were *mature*, *clear thinking*, *self-controlled*, *steady*, and *foresighted*, all traits which would appear to facilitate achievement in settings where *conformance is desirable*.

The adjectives with negative correlations were quite varied in their content, apparently reflecting diffuse sorts of maladjustment. A possible exception is *flirtatious*, which does not seem to have the same degree of negative connotation (if any at all) as the remainder of the list.

**Achievement via independence (*AI*).** This scale was designed to "identify those factors of interest and motivation which facilitate achievement in any setting where autonomy and independence are positive behaviors." Even though two positively correlated and two negatively correlated adjectives replicate from Gough's analysis (*mature*, *intelligent* and *immature*, *foolish*, respectively) none of them achieved very high magnitudes of relationship. Apparently, this scale does not fulfill its stated aim in this sample, although the appearance of *determined* at the top of the list ( $r = .27$ ) is promising.

The moderately high negative relationships for *flirtatious* ( $r = -.38$ ) and *sexy* ( $r = -.35$ ) are unexpected but nonetheless of potential value. Apparently, low scores on *AI* are moderately related to these traits.

**Intellectual efficiency (*Ic*).** For a scale which was designed to "indicate the degree of personal and intellectual efficiency which the individual has attained" it is gratifying to observe that *clear-thinking* appears again as a positive correlate ( $r = .35$ ). In fact, the remaining positively correlated adjectives, all of which reached the .01 level of statistical significance, offer strong confirmation that *Ic* measures what it purports to measure, at least at the high end of the scale.

The ten negatively correlated adjectives showed quite strong relationships ( $-.29$  to  $-.41$ ), although it would be diffi-

cult to summarize the results of Gough's study.

**Psychological mindedness (*Pv*).** The *Pv* scale has been described as "a measure of the degree to which the individual is interested in, and responsive to, the inner world of his own and other people's feelings and experiences." None of the expected correlations were replications of Gough, although the moderate negative correlation ( $r = -.35$ ) suggests that low scores on *Pv* reflect this characteristic.

**Flexibility (*Fx*).** The *Fx* scale is supposed to "indicate the degree of flexibility and adaptability of the individual in his thinking and social behavior." Considering that there were no replications from Gough's analysis, the significance of the correlations is almost negligible. It is doubtful that *Fx* is useful here, at least with this sample.

**Femininity (*Fe*).** *Fe* was designed to "measure the femininity or masculinity of interests, with the understanding that low scores indicate more masculine interests." While *self-controlled* and *self-controlled* replicated as expected, the remaining positive relationships ( $r = .22$ , and  $.21$ , respectively) were not statistically significant. On the other hand, the four expected negative correlations (.31 to .34) were quite pronounced, and significant, which are consistent with traditional conceptions of femininity.

Low scores on *Fe* are associated with such personality characteristics as *hater* and *hater*, and *hater* and *hater* are more responsive to low scores on *Fe* than maladjustment, and the *hater* interest pattern. Test interpreters would be well advised to be cautious in interpreting *Fe* as a bipolar femininity-masculinity scale.

A number of general conclusions can

be derived which substantiate the value of replicating research on the correlates of CPI scales. First, with a few exceptions noted above, the current results serve to confirm the concurrent validity of the CPI scales. Most of the scales showed moderately strong relationships with adjectives which were, at a minimum, consistent with the stated purpose of the scale. In some cases, the positively correlated adjectives were not only highly appropriate, but appeared in Gough's study as well, thereby strongly reinforcing the validity of the relationship.

A second general conclusion is that low scores on the CPI scales appear to reflect general maladjustment rather than indicating the polar opposite of high scores. Time and again adjectives such as *shy, meek, timid, bitter, and pessimistic* appear as high and negative correlates of CPI scales. This should serve as a warning to test interpreters that a low CPI scale score should not be interpreted merely as indicating the opposite of what a high scale score purports to measure.

#### Reference Note

1. Morris, L. M., & Gregory, R. J. *Adjective correlates of the CPI Dominance scale for women: Evidence of a change in desirability*. Paper presented at the American Psychological Association, San Francisco, 1977.

#### References

- Gough, H. G. An interpreter's syllabus for the California Psychological Inventory. In P. McReynolds (Ed.), *Advances in psychological assessment, Vol. 1*. Palo Alto, Ca: Science and Behavior Books, 1968.
- Gough, H. G. *Manual for the California Psychological Inventory* (rev. ed.). Palo Alto, Ca: Consulting Psychologists Press, 1969.
- Gough, H. G., & Heilbrun, A. *The Adjective Check List manual*. Palo Alto, Ca: Consulting Psychologists Press, 1965.
- Megargee, E. *The California Psychological Inventory handbook*. San Francisco, Ca: Jossey-Bass, 1972.

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## Locus of Control and Effects of Failure on Performance and Perceived Competence

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**Summary:** Reactions to ego related performance feedback of 117 internal and external eighth-grade children were investigated under conditions which made denial of personal responsibility for outcomes difficult. Both internals and externals were equally pleased by success feedback and displeased by failure and their competence judgment was influenced by the feedback received. However, internals exhibited more effective coping with failure than did externals. They improved their performance following failure feedback relatively more than after success and no external feedback conditions, and their perceived competence did not decrease in comparison with externals.

The concept internal-external Locus of Control (Lefcourt, 1966, 1976; Phares, 1976; Rotter, 1966) refers to the degree to which an individual perceives that reinforcements are contingent on his actions and can therefore be controlled by him. The internal person tends to attribute outcomes to his own intentions and actions; the external tends to attribute results to external factors which are beyond his control.

This study explores Locus of Control as a determinant of effective coping with failure.

Efran (1963) and Davis (1970) have suggested that externality enables one to preserve self-esteem in the face of failure by the simple expedient of blaming outside forces. Indeed, there are indications that externals avoid negative self-evaluation by feeling themselves less responsible than internals for their own unsuccessful outcomes (Davis & Davis, 1972; Phares, Wilson & Klyver, 1971). There are, however, many situations in which the reinforcement value of task and the personal causation of unsuccessful performance are difficult to deny. Indeed, Fitch (1969) and Gilmer and Minton (1974) found that externals blamed themselves for failure outcomes not less than internals. The present investigation is concerned with the reaction of externals and internals to failure (as compared to success and neutral conditions) in such a situation.

Even where personal causality for outcomes is acknowledged, one should dis-

tinguish between perceived controllable or variable and uncontrollable or fixed reasons for failure. Weiner et al.'s (Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971) model of attribution, suggests two dimensions of achievement related attribution: a personal vs. environmental dimension and a fixed vs. variable dimension. The personal factor contains two elements — ability (can) and effort (try). Heider (1958) contends that while both "can" and "try" are necessary for an action to be completed successfully, ability and effort may be perceived as compensatory or disjunctive. Ability, in fact is uncontrollable by reinforcement whereas effort is controllable by the individual's intentions or motivation. Joe (1974) found that internals attributed failure outcomes to insufficient effort to a greater extent than did externals. It is possible that if denial of personal reasons for failure is made difficult, internals will tend relatively more than externals to attribute the failure to insufficient effort whereas externals to lack of ability rather than to an environmental chance factor. In this case, if successful outcomes represent an equally important goal for internals and externals and unsuccessful outcomes represent a loss in self-esteem, it is expectable that the ability to avoid recurrence of the negative result will be greater among internals than externals. It is hypothesized that: a) both groups will be equally pleased by successful results and equally distressed by failure; b) for both internals and externals the feedback re-



ceived for first performance will provide some basis for self-estimation on subsequent performance. However, c) following failure feedback, internals will exhibit more vigorous attempts to improve subsequent actual performance than will externals and, therefore, d) self-estimation of performance following failure will be higher for internals than for externals.

### Method

#### *Subjects, Design, and Measure*

Subjects were eighth grade children (about 14 years old) from a middle-low social class. At the first phase five school classes totalling 148 children participated in the study. Of those only four classes ( $n = 117$ ) were available for the feedback phase.

A factorial design was used; feedback conditions and internal-external locus of control constituted the two independent variables.

Internal-external locus of control was assessed by the median score on Miller's (Note 1) CLOEC (Children's Locus of Evaluation and Control) scale. The scale consists of two subscales of 24 items each, which gauge locus of evaluation and locus of control. In the present study, only the locus of control subscale was used. For the group under discussion ( $n = 148$ ), the scale yielded a .74 split half-reliability coefficient. The mean score (towards internality) was 17.18, S. D. = 3.01. No differences were found between boys and girls.

The dependent variables were:

1. Reported feelings toward the feedback received, on a 9-point scale ranging from "most distressing" to "very pleasant"; higher scores reflect greater pleasantness. A  $2 \times 2$  (success, failure conditions; internal, external control) analysis of variance was computed for this variable. For the other two variables  $3 \times 2$  (success, failure, no-external feedback conditions; Internal, external control) analyses of covariance were performed.

2. Change in actual performance; it was assessed by pre- to post-change in the number of accurate items completed on an extended version of Wechsler's coding subscale covariated on pre-feed-

back performance on the same test. The test instructions and time limit (3 minutes) were equal in the pre- and post-feedback phases.

3. Change in self-estimate; pre- to post-change in self-estimation of score on the coding test covariated on self-estimate of pre-feedback performance score.

The value of success and initial self-evaluations of competence were assessed in two ways:

1. By ratings given by the subjects prior to taking the test, of the importance of several personal and cognitive qualities, and their self-evaluation of these qualities. Subjects were later informed that three of these qualities were measured by the test. The subjects received two lists, each itemizing the same traits, but given them in a different order — one for the ratings of the importance of the traits and one for self-ratings. Each trait was rated on a 9-point scale. Evaluation was made of ratings given on four items: ability to absorb new materials, ability to concentrate on a task, manual dexterity, and self-knowledge.

2. By the subjects' indications on a 9-point Likert scale following the first performance on the coding test of the degree to which it was important to them to succeed on the test. This rating constituted a more direct measure of their perceived value of success. Their estimate of the score they would receive reflected their initial perceived competence.

#### *Procedure and Feedback Manipulation*

The research was conducted during school time not in the presence of the regular teachers. In order to create relatively small groups, each class was divided into two, and each half was placed in a separate room. At the beginning of the first session subjects were informed that they were participating in a research project for which information on their opinions and abilities was being gathered. They were administered the CLOEC scale, the two lists of items for rating the importance of and self-evaluation on personal and cognitive qualities, and then they received the coding test. The standard instructions for this test were given in writ-

Table 1

Correlation Coefficients: Locus of Control with Value (upper row)  
and with Competence (lower row) Rating, on Assessed Traits

$n = 148$

	Learning Speed	Concentration	Manual Dexterity	Self-knowledge
L.O.C.	.037	.081	.015	.234*
	.052	.102	.120	.261*

ing and were read in a loud voice by the examiner. After the subjects completed the coding test and handed it over to the examiner, they were informed that the test they had just completed was a sub-scale of an intelligence test, that it measures the speed with which new signs are learned, motor speed, and ability to concentrate on a task. They were told that while it would not be explained to them how scores are arrived at, the highest score attainable was 115 and the mean score was 57. The subjects were then asked to estimate their score and to write it down, then to mark the one phrase of the nine on the list in their possession which best described the importance they attached to success on a test of this kind.

The second session or feedback phase was held four days after the first. It contained recipience of feedback scores for the earlier testing, ratings of feelings towards the scores received, and subjects then performed the coding test again, following which they estimated their results on this second testing.

The subjects were randomly assigned to feedback condition; those who received no feedback were told that due to lack of time not all the tests had been assessed.

The scores given were based not on actual performance, but on the subjects' own self-estimate. Thus, subjects placed in the success feedback condition were given scores 15 points higher than they expected, and those placed in the failure feedback condition were given scores 15 points lower than their self-estimate. In this manner, any potential effects result-

ing from a differential magnitude of dissonance arousal in the subjects' reaction were avoided.

At the end, subjects were debriefed regarding the feedback they received.

### Results

Initial analyses of pretest presentation data on 148 subjects revealed no significant correlations on any of the three test-related traits, between locus of control (scored towards internality) and either perceived reinforcement value or perceived competence. Locus of Control however, yielded a significant positive correlation with both the value of "self-knowledge" and with self-evaluation on that quality. The correlation coefficients are presented in Table 1.

The posttest presentation data from phase 1, for the 117 subjects who also participated in phase 2, were subjected to a series of  $3 \times 2$  (feedback condition  $\times$  locus of control) analyses of variance. The three feedback groups were differentiated in this analysis in order to determine whether there were differences in performance, self-estimation, and value of success prior to manipulation. The data obtained is summarized in Tables 2 and 3.

It is evident from the data presented in the Tables that none of the differences between internals and externals and among feedback condition groups, reached statistical significance. However, a covariance analysis was computed for the change scores in order to reduce any effect of the slight initial differences.

Since both the value attached to "self-knowledge" and the self-evaluation were

Table 2  
Group Means for Phase 1 Test Related Data

		<i>n</i>	Performance	Self-estimation	Value
Success	Internal	22	76.45	73.68	2.09
	External	23	73.78	73.03	2.56
Failure	Internal	20	76.00	77.85	2.05
	External	19	72.42	73.68	2.15
Control	Internal	17	74.82	75.23	1.77
	External	16	73.00	71.37	2.25

Table 3  
Analyses of Variance for Phase 1 Test Related Data

Source	Performance			Self-Estimation		Value	
	<i>df</i>	MS	<i>F</i>	MS	<i>F</i>	MS	<i>F</i>
Feedback Condition (A)	2	15.11	0.03	78.92	0.65	0.89	0.38
Internal-External (B)	1	228.61	0.57	192.51	1.59	3.93	1.68
A x B	2	6.08	0.01	41.57	0.34	0.50	0.21
Error (Within)	111	397.03		120.96		2.33	

higher among internals than externals, it was worthwhile to determine whether internals gave a more accurate evaluation of their performance. Correlations between actual performance and self-estimation were calculated separately for internals (74 subjects) and externals (74 subjects). The correlation for internals yielded a positive result ( $r = .228, p < .025$ ), whereas for externals the result was insignificant ( $r = .091$ ).

Responses to feedback are summarized in Tables 4 and 5.

Reported distress was significantly higher for the failure condition than for the success condition. No main effect of locus of control was found, nor was there an interaction effect with the feedback

condition.

The results for actual performance revealed no main effect of feedback condition, but did show a significant effect of internal-external control. Internals improved their performance more than externals. The interaction between feedback conditions and locus of control did not reach acceptable statistical significance. It was however significant at the  $p < .2$  level. The means show that the difference in performance change between internals and externals was greatest following failure and least evident following success. They also indicate that internals improved their performance after failure more than in the other conditions.

The results for self-estimation indi-

Table 4  
Group Means for Responses to Feedback

		<i>n</i>	Feelings	Performance (covariance adjusted)	Self-estimation (covariance adjusted)
Success	Internal	22	7.18	17.84	9.53
	External	23	7.56	16.44	9.29
Failure	Internal	20	3.15	34.93	3.64
	External	19	3.36	13.27	-3.60
Control	Internal	17		24.34	6.48
	External	16		17.25	3.07

Table 5  
Analyses of Variance (or covariance) for Responses to Feedback

	Feelings			Performance			Self-Estimation	
	<i>df</i>	MS	<i>F</i>	<i>df</i>	MS	<i>F</i>	MS	<i>F</i>
Feedback (A)	1	374.37	77.54**	2	544.60	0.78	904.32	11.55**
Internal- External (B)	1	1.89	0.39	1	2901.43	4.15*	340.39	4.27*
A x B	1	0.12	0.02	2	1124.71	1.61	132.38	1.66
Error (Within)	80	4.82		110	698.55		79.68	

\*  $p < .05$ .

\*\*  $p < .001$ .

cated a significant main effect of feedback condition and a significant main effect of internal-external control. Following success feedback, the rise in self-estimates was greatest for all subjects and following failure feedback it was lowest. The effects of internal-external control on self-estimation were similar to those of performance. Internals' self-estimates raised more than externals'.

Feedback condition x locus of control interaction did not reach the .05 level of significance but was significant at a .2 level. As shown by the means, the difference in change of self-estimation between internals and externals was greatest following the failure feedback. Externals estimated themselves lower after the failure feedback than in the initial phase, whereas the internals' self-estimate did



not decrease.

When changes in self-estimation were covariates on changes in performance, the difference between feedback groups increased ( $F[2, 110] = 16.601, p < .001$ ), but internal-external differences were entirely reduced ( $F[1, 110] = 0.519$ ). Thus, the effects of feedback on self-estimation of performance were similar for internals and externals. The internals' higher self-estimates accurately reflected their better performance especially following unsuccessful results of previous performance.

### Discussion

The findings indicate, as hypothesized, that both internals and externals experienced similar pleasant feelings after receiving positive results and similar unpleasant feelings after failure feedback, which implies that the value of positive results remained equal for internals and externals. For both internals and externals, there was a clear difference in the change of self-estimation between those receiving failure feedback, success feedback, and no feedback. Thus, the effects of feedback on the subjects' feelings and standards of judgment were similar for internals and externals.

However, the results suggest that after failure feedback, internals increased their efforts during subsequent task performance, relatively more than in the other conditions, and their perceived competence did not decrease. On the other hand, externals, after a failure feedback in comparison to the other conditions, gave no indication of increased effort to improve during second performance, and their perceived competence decreased. It appears that internals perceived failure outcomes as resulting partly from insufficient effort or from an unstable-controllable factor and that it was possible to improve results in second performance by increasing effort, whereas externals believed that failure outcomes reflected a lack of ability or was determined by a fixed uncontrollable factor and thus it was beyond their power to improve subsequent performance. According to Weiner et al (1971) ascription of failure to a lack of effort will result in greater in-

strumental actions than will ascription of failure to a deficiency of ability.

It also seems possible that failure evoked greater anxiety among the external subjects than among the internals. The relationship between external locus of control and anxiety is well documented in the literature on locus of control mentioned earlier. The interference of anxiety or performance of the test employed in this study is stated in the rationale of that test (e.g. Rapaport, Gill, & Schaler, 1968).

One may even speculate that anxiety was connected to the perception of an uncontrollable ego-related negative event. Lazarus (1966) contends that individuals' perception of threat in potentially anxiety-arousing situations is mediated by their belief about their ability to exert control over that potential threat.

The findings verify that prior to receiving external feedback, internals were aware of a relationship between performance and successful results, while the externals' expectations for positive results were not related to their actual performance. The fact that internals rated the value of accurate self-knowledge higher than did externals and that they also rated themselves higher on this variable than did externals, together with the fact that their self-ratings of skill were more accurate, may indicate that the need and the ability to form an accurate self-evaluation of skill is greater among internals than among externals. DuCetle and Wolk (1973) have suggested that internals not only perceive themselves more able to control reinforcements, but also prefer control to a greater extent than externals do. Thus, for internals, self-knowledge could be a means to achieving control of reinforcement. The external is less concerned with achieving an accurate evaluation of himself possibly because it appears to be of lesser importance to him since he perceives himself as less able to change his behavior.

While there are studies which show that externals avoid a decrease in self-evaluation following failure feedback, in seeming contradiction to the findings of the present study, this may be due to their tendency to deny the negative personal implication of their poor performance



## Dysmenorrhea and Personality

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**Summary:** The experiment examined whether reliable personality differences exist between (a) women who suffer from spasmodic and congestive dysmenorrhea and (b) women who experience dysmenorrhea and women who do not. A sample of 12 congestive dysmenorrhea sufferers, 12 spasmodic dysmenorrhea sufferers, and 24 nonsufferers obtained from a larger sample of university women, completed the Menstrual Symptom Questionnaire, Minnesota Multiphasic Personality Inventory, Tennessee Self-Concept Scale, and Personality Research Form. Results indicated that congestive sufferers differed from spasmodic sufferers only in their level of impulsivity. However, dysmenorrhea sufferers differed significantly from nonsufferers in that dysmenorrhea sufferers were more similar to a neurotic sample, were depressed, anxious and introverted, and less independent, playful, satisfied with themselves, positive about their physical and social selves than nonsufferers. In spite of these differences, standard scores from the personality measures suggested that dysmenorrhea sufferers were not maladjusted.

The relationship between dysmenorrhea, defined as pain during menstruation (Dalton, 1969), and personality is unclear. Some investigators have theorized that primary dysmenorrhea (having no known organic cause) is due to personality maladjustment. In brief, these data suggest that dysmenorrhea sufferers (a) have a history of maladjustment four times greater than nonsufferers (Wittkower & Wilson, 1940), and (b) are higher on indices of neuroticism than nonsufferers (Gregory, 1957; Levitt & Lubin, 1967; Rees, 1953; Sainsbury, 1960). Other writers have argued that dysmenorrhea is relatively frequent in the general population and unrelated to underlying neurotic personality characteristics. Schuck (1951), questioned 800 women about menstrual pain and concluded that neuroses were no more prevalent in those with essential (or primary) dysmenorrhea than those women with normal menses. Similarly, Coppen & Kessel (1963) evaluated 500 women in

England and found no relationship between dysmenorrhea and neuroticism as measured by the Maudsley Personality Inventory (MPI).

Many of the investigations mentioned above suffer from methodological weaknesses which attenuate internal and external validity and may account for contradictory findings. Most glaring here are a lack of appropriate controls, reliance on physicians' untested impressions of psychopathology, nonuniformity of diagnostic criteria, and evaluations based solely upon hospitalized dysmenorrhea patients.

Another potential explanation for the discordance in previous research emanates from the work of Katharina Dalton, a pioneering gynecologist and researcher of the menstrual cycle. Dalton (1969) claims that there are two types of dysmenorrhea with contrasting symptomatology. Spasmodic dysmenorrhea is most common between the ages of 15-25, and is characterized by the onset on the first day of menstruation, acute, cramp-like pain confined to the lower abdomen and possible nausea, weakness, and vomiting. Congestive dysmenorrhea, on the other hand, can occur until menopause and is characterized by an onset several days, possibly even a week before menstruation, an increasing heaviness and

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dull aching pain in the lower abdomen which may be accompanied by nausea, lack of appetite, breast-swelling and constipation. Often concomitant with the congestive type of dysmenorrhea are the emotions associated with the "normal" premenstrual syndrome — tiredness, irritability, tension, and depression. Although Dalton is a strict believer in a hormonal etiology for both types of dysmenorrhea, she alludes to certain personality factors being associated with the congestive type. "They (congestive sufferers) tend to be women desiring large families and possessing marked maternal instincts" (1969, p. 42).

If personality differences exist between spasmodic and congestive dysmenorrhoeic sufferers, it is quite possible that these differences could account for discrepancies in previous research studies. Some recent work by Chesney (1975) allows us to separate spasmodic sufferers from congestive sufferers on the basis of a questionnaire which comes from Dalton's work.

The present study had two major purposes. First, to examine whether reliable personality differences exist between women who suffer from congestive and spasmodic dysmenorrhea. Second, to examine in an objective and comprehensive fashion, whether reliable personality differences exist between women who experience dysmenorrhea and women who do not.

### Method

Two hundred undergraduate women enrolled in several psychology courses taught at Colorado State University volunteered to participate in a research study involving "women's issues and problems." These subjects, in groups of 20-40, were administered the Menstrual Symptom Questionnaire (Chesney, 1973) by two female graduate student experimenters. This questionnaire, developed from the work of Dalton (1969) is designed to answer two diagnostic questions: whether the subject suffers from dysmenorrhea, if so, spasmodic or congestive?

Each completed questionnaire was scored and, based on these scores, a diag-

menstrual cycle. The subjects were randomly assigned to one of the two groups. The subjects who were not menstruating at the time of the experiment were excluded from the study. The subjects were women between 18 and 30 years of age, with a body mass index (BMI) between 18.5 and 24.9 kg/m<sup>2</sup>. The subjects were not taking any medication. Of the remaining 200 subjects, 20 were diagnosed as spasmodic dysmenorrhea sufferers, 17 as congestive dysmenorrhea sufferers, and 163 who were nonsufferers. At this point it was decided to preserve uniformity of numbers across groups. Therefore, 24 dysmenorrhea sufferers (12 congestive and 12 spasmodic) and 24 nonsufferers were randomly chosen to constitute the final subject pool. These subjects were then randomly divided into two groups made for part 1 and part 2 of the experiment.

The first group of 48 subjects was administered the group in the Minnesota Multiphasic Personality Inventory (MMPI) (Hathorn & M. K. 1943). Personality tests were administered (Jackson, 1966). The group completed Scale 1 (SC-1) of the SC-1 and a biographical data questionnaire, which was prepared by the experimenter. The testing time for the SC-1 block of tests was approximately 1 hour and a few were probed. At the completion of testing, a subject was asked about the purpose of the experiment and all questions pertinent to the research were answered.

### Results

A test of planned comparisons between congestive and splenic lymphomas was conducted. Significant differences between the two groups were found for the TSCS, indicating that splenic lymphomas are more impulsive than congestive lymphomas. However, these differences did not reach statistical significance.

employed to detect a difference between



Table 1

Means, Standard Deviations and *F* Values for Significant Comparisons  
Between Dysmenorrhea Sufferers and Nonsufferers

Dependent Variable	Dysmenorrhea Nonsufferers		Dysmenorrhea Sufferers		<i>F</i> Value	Significance Level
	Mean	Standard Deviation	Mean	Standard Deviation		

## MMPI

Depression	48.2917	8.3379	56.1667	12.2782	6.757	.013
Masculinity/ Femininity	47.0833	9.3712	42.9167	7.6267	2.854	.098
Psychasthenia	55.7917	9.0984	61.9167	10.8223	4.504	.039
Mania	64.2917	9.8399	59.7083	9.2194	2.773	.103
Social Introversion	49.6667	10.3490	56.5417	8.8759	6.103	.017

## Personality Research Form

Autonomy	55.5417	6.7758	48.1667	7.6782	12.879	.001
Exhibition	54.0833	10.5786	49.4583	7.6782	3.005	.090
Harmavoidance	50.5833	11.8722	56.1250	8.2794	3.518	.067
Play	58.0833	10.0690	49.7917	10.4756	7.816	.008

## Tennessee Self-Concept Scale

Total	52.0833	10.6930	46.4583	9.3156	3.776	.058
Self-Satisfaction	55.1250	9.4883	49.3750	10.1374	4.116	.048
Physical Self	47.4167	8.8215	40.7083	8.6098	7.108	.011
Personal Self	52.8333	11.3278	47.5833	9.2545	3.092	.085
Social Self	55.6250	9.9556	48.1250	10.4728	5.466	.014
Defensive Positive	51.8333	8.5092	47.2917	8.5337	3.409	.071
Neurosis	49.6667	8.9960	55.6667	8.2918	5.772	.020

were reliable differences between women who experienced dysmenorrhea (congestive and spasmodic) and women who did not. The results of these analyses are presented in Table 1.

In the analyses of the MMPI ( $df = 1, 46$ ), significant differences between the groups were obtained on the depression ( $F = 6.757, p < .025$ ), psychoasthenia ( $F = 4.50, p < .05$ ), and social introversion

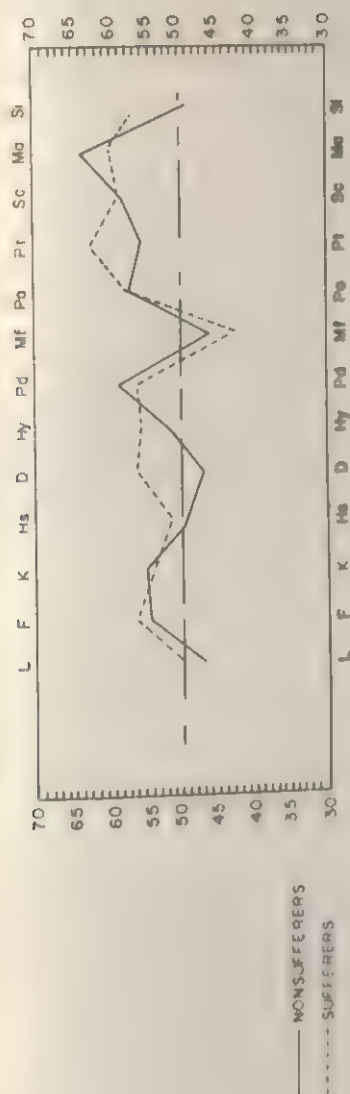


Figure 1. MMPI profile for dysmenorrhea sufferers and nonsufferers

( $F = 6.013$ ,  $p < .025$ ) scales. Inspection of the means suggested that women who experience dysmenorrhea were more depressed, anxious, worrying, and withdrawn than women who do not experience dysmenorrhea. Additionally, there were differences which approached significance in the analyses of the masculinity-femininity ( $F = 2.85$ ,  $p < .10$ ) and mania subscales ( $F = 2.77$ ,  $p < .10$ ). These results suggested that women who experience dysmenorrhea were more traditionally feminine and less active than women who do not experience dysmenorrhea. The entire MMPI profiles representing means on each group are presented in Figure 1.

In the analyses of the PRE ( $F = 1.46$ ), significant differences were obtained on the autonomy ( $F = 12.88$ ,  $p < .001$ ) and play ( $F = 7.82$ ,  $p < .01$ ) subscales. Inspection of the means suggested that women who experience dysmenorrhea were less autonomous and less prone to play and amusement than women who do not experience dysmenorrhea. Differences which approached significance were obtained in the analyses of the perfectionism ( $F = 3.01$ ,  $p < .10$ ) and the self-reliance ( $F = 3.52$ ,  $p < .10$ ) subscales. These results suggested that women who experience dysmenorrhea were more perfectionistic and more prone to rely on personal safety than women who do not experience dysmenorrhea.

In the analyses of the ESCS ( $F = 1.46$ ), significant differences were obtained on the row 2 ( $F = 4.72$ ,  $p < .05$ ), column A ( $F = 2.11$ ,  $p < .025$ ), column B ( $F = 6.47$ ,  $p < .025$ ), and A x column B ( $F = 9.71$ ,  $p < .028$ ). Inspection of the means suggested that women who experience dysmenorrhea were less satisfied with themselves, less positive about their physical self, less positive about their social self, and more similar to a traditional female than women who do not experience dysmenorrhea. Differences which approached significance were obtained in the analyses of the Lota ( $F = 3.80$ ,  $p < .10$ ), column A ( $F = 3.09$ ,  $p < .10$ ), and the B ( $F = 3.6$ ,  $p < .10$ ) scales. These results suggested that women who experience dysmenorrhea reported less overall self-esteem, a sense of personal worth, and defensiveness.

ness than women who do not experience dysmenorrhea.

### Discussion

The results of this study clearly provided no evidence for meaningful personality differences between women who suffer from congestive and spasmodic dysmenorrhea. On the other hand, there were substantial differences in personality functioning between women who experience dysmenorrhea and women who do not. Dysmenorrhea sufferers were significantly more depressed, anxious, withdrawn, and similar to a neurotic population. They were significantly less autonomous, prone to play and amusement, and satisfied with themselves, especially their physical and social selves. Additionally, a number of significant trends suggested that women who experience dysmenorrhea were more traditionally feminine, prone to maximize personal safety, and less active, exhibitionistic and self-confident, than women who do not experience dysmenorrhea.

Although these data point to cogent differences in personality functioning between dysmenorrhea sufferers and nonsufferers, they do not suggest that dysmenorrhea sufferers are neurotic. Except for several of the self-concept subscales, the psychological tests used in this study showed that as a group, dysmenorrhea sufferers were well within the limits of normal personality functioning. As a group, dysmenorrhea sufferers were thus well-adjusted, although lacking in self-concept, especially their notion of physical self.

Based on these findings it is unlikely that psychological treatments aimed at personality reorganization would be the most effective treatment intervention for women who experience dysmenorrhea. However, the failure of this research to show the existence of a psychopathological substrate associated with either type of dysmenorrhea does not rule out psychological intervention entirely. It may be that psychological treatments such as relaxation training, biofeedback for pain

reduction, etc., may be useful strategies in the treatment of dysmenorrhea. Also, psychotherapy focused on self-concept issues may be very potent as well. Of course, it is also possible that Dalton (1969) is correct in her position that dysmenorrhea is due to hormonal imbalance and should therefore be treated medically. Clearly, more research is needed on effective treatment interventions before speculations can be anything more than speculations.

### References

- Chesney, M. J. The development of the menstrual symptom questionnaire. *Behavior Research and Therapy*, 1975, 13(4), 237-244.
- Coppen, A., & Kessel, N. Menstruation and personality. *British Journal of Psychiatry*, 1963, 109, 711-721.
- Dalton, R. A. *The menstrual cycle*. New York: Pantheon Books, 1969.
- Fitts, W. H. *Tennessee (Department of Mental Health) Self-Concept Scale*. Nashville, Tennessee: Counselor Recordings and Tests, 1964.
- Gregory, A. J. C. The menstrual cycle and its disorders in psychiatric patients. *Journal of Psychosomatic Research*, 1957, 2, 61.
- Hathaway, S. R., & McKinley, J. C. *Booklet for the Minnesota Multiphasic Personality Inventory*. New York: The Psychological Corporation, 1943.
- Jackson, D. N. *Personality Research Form (Form A)*. Goshen, New York: Research Psychologists Press, 1968.
- Levitt, E. E., & Lubin, B. Some personality factors associated with menstrual complaints and menstrual attitude. *Journal of Psychosomatic Research*, 1967, 2, 267-270.
- Rees, L. The premenstrual tension syndrome and its treatment. *British Medical Journal*, 1953, 1, 1014-1016.
- Sainsbury, P. In *Advances in psychosomatic medicine*, Vol. 1. Basel: Switzerland: Karger, 1960.
- Schuck, F. Pain and pain relief in essential dysmenorrhea. *American Journal of Obstetrics and Gynecology*, 1951, 62, 559-567.
- Wittkower, F., & Wilson, A. T. M. Dysmenorrhea and sterility: Studies in personality. *British Medical Journal*, 1940, 2, 586.

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## The Measurement of Assertiveness and Aggressiveness

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**Summary:** The Bakker Assertiveness-Aggressiveness Inventory is a 36-item self-report inventory designed to measure two separate aspects of what has previously been subsumed under the rubric "assertiveness", namely, (a) defensive-responsive behaviors which protect territory and privileges, and (b) initiating behaviors which augment the person's territory or status. Assertiveness scores increased significantly above aggressiveness scores in a class which focused on the defensive, responsive aspects of behavior. Aggressiveness was found to correlate with occupation level and amount of schooling sought, while assertiveness did not correlate with either of these. Normative, reliability and validity data are presented.

Assertiveness training has been developed as a technique for teaching individuals to defend their prerogatives and express their feelings toward others. Salter (1961) was one of the first to formulate a treatment approach aimed at the frank and spontaneous expression of feelings of tenderness as well as feelings of anger and aggression. Since that time others have followed (Alberti & Emmons, 1974; Wolpe, 1969; Wolpe & Lazarus, 1966).

Assertiveness training appears to be one of the most promising contributions to behavior therapy (Bandura, 1969). Research on assertiveness, however, has been impeded by the absence of agreement on exactly what constitutes assertiveness and, consequently, what items should be included in an "assertiveness" inventory (Rich & Schroeder, 1976). For example, Galassi, Delo, Galassi, and Bastien (1974) include several items which refer to "difficulty" of engaging in certain behaviors. Gambrill and Richey (1975) designed a test which distinguishes between the "comfort" and the "probability" of acting assertively. Rathus (1973) included an even greater range of self-descriptive items (e.g., "#2. I have hesitated to make or accept dates because of 'shyness.' [p. 399]"). Some of these measures are more concerned with the experiential components of a person's behavior than with the behavior itself.

Rich and Schroeder (1976) in reviewing the range in definitions of assertiveness, note the vague and confusing conceptual base for this construct. Of the seven assertiveness inventories they re-

viewed they found most failed to correlate against external behavioral criteria in spite of meticulous construction procedures. However, they noted that the Conflict Resolution Inventory (CRI) developed by McFall and Lohrman (1971) was an exceptionally good example of the progress to be made by means of delineating and clearly defining the response domain. The CRI is a 35-item inventory which consists exclusively of responses specific to refusal situations commonly encountered by college students. In addition, Rich and Schroeder (1976) noted the need to develop measures for other response classes identified under the definitions of "assertiveness". In a similar vein, McFall and Lohrman (1971) found that the increased ability to refuse unreasonable requests subsequent to their training program did not improve the ability of subjects to make requests or to ask favors.

These two response classes, commonly subsumed under the single term "assertiveness" are thus best thought of as separate response classes, one broadening and one connoting abilities in the area of obtaining that which one formerly did not own. For the purposes of this discussion, these two response classes are called "assertiveness" and "aggressiveness" respectively. It is the contention of this study that much of the confusion in the "assertiveness" literature is caused by overlapping of definition of what is best separated into the terms assertiveness, aggressiveness, and hostility. For example, Wolpe



(1969) introduced the terminology of "hostile" assertive statements (e.g., "Please don't stand in front of me [p. 66]") and "commendatory" assertive statements (e.g., "That's a beautiful dress brooch, [p. 66]" etc.). Galassi and Galassi (1975) studied responses to the Buss-Durkee Inventory (Buss, 1961) to support their contention that aggressiveness bears no relationship to assertiveness; however, the BDI notion of "aggressive" behavior is considerably different from "aggressive" as it has been applied to the assertiveness literature. In contrast, Bakker and Bakker-Rab dau (1973) carefully distinguish between assertive, aggressive and hostile behaviors, and define these as follows:

**Aggressive behavior.** Any behavior which leads to or seeks expansion of the realm which the individual controls. Such expansion may include physical space as well as areas of functioning (job, role) and attention obtained from others (status).

**Assertive behavior.** Behavior which occurs in response to aggressive behavior of others. It leads to or seeks the maintenance or re-establishment of the realm which the individual controlled at the beginning of the conflict.

**Hostile behavior.** Behavior that seeks to destroy or damage a person or his, her property. Such behavior is typically associated with subjective feelings of hatred or resentment.

The reasons for these distinctions have been considered in detail elsewhere (Bakker & Bakker-Rab dau, 1973); however, it is most important to point out that aggressiveness and assertiveness, as defined above, appear to require different skills if they are to be carried out effectively (McFall & Lillesand, 1971). Although both types of behavior are necessary for effective social functioning, one would predict that a lack of skill in either of the areas would have very different consequences for the individual's life. Hostility, on the other hand, defined as a behavior which seeks destruction of the individual or his territory, appears to be the result of the lack of assertive or aggressive skills, and must therefore be excluded from any instrument that measures the latter. Assertiveness and aggressiveness, as they in-

volve very different skills and have different objectives, can best be taught separately. It is important, therefore, to have a test instrument available which provides a measure of the individual's level of skill in each of these areas. It was for this purpose that the Assertiveness-Aggressiveness Inventory was developed.

### Method

#### The Inventory

The Bakker Assertiveness-Aggressiveness Inventory is a 36-item scale composed of two 18-item subscales. One subscale is designed to measure the probability of "assertive" (defending territory, prerogatives, status, etc.) responding, the other to measure the probability of "aggressive" (acquiring territory, prerogatives, status, etc.) behavior.

The items were generated by first creating a list of interpersonal situations which were brought up for discussion in a group dealing with interpersonal conflict. The list was extended by adding items from other assertiveness tests. Next the program staff was asked to sort the items into those reflecting either assertive or aggressive behaviors. Only reliably sorted items were retained. To balance the design of the test half of the items on each subscale were keyed positive while the other half were keyed negative.

As previous research has indicated (Gambrill & Richey, 1975) that the probability of an individual's response is highly situation-dependent, the items were designed to provide the reader with a description of a specific situation followed by a definite response, e.g., "You are on a bus or plane sitting next to a person you have never met ... You strike up a conversation." Answers are given in terms of the likelihood that the respondent would behave in the same manner, rated on a 5-point scale with end-points of "almost always" and "almost never." Test items and keying are given in Appendix A. An attempt was made in constructing the two subscales to sample from as diverse a range of situations as possible.

#### Procedure

Normative data were collected on seven separate samples (see Table 1). An intro-

Table 1

Summary of Statistical Data for Several Normative Populations

Population	Sex	n	Correlation As with Age	Average Scores		Age <sup>a</sup>	Cognitive Function Measure <sup>b</sup>	Mental Function <sup>c</sup>	Reading Level <sup>c</sup>
				As <sup>d</sup>	As <sup>e</sup>				
Nurses A	F	63	.53	47.90 (8.59)	50.50 (8.19)	41.3 (7.59)	0.75	4	84%
Nurses B	F	28	.57	47.84 (9.09)	48.18 (8.81)	38.0 (9.3)	0.64	4	80%
X-Ray Tech.	M	26	.23	48.77 (7.20)	48.15 (7.85)	41.1 (9.5)	0.71	3	85%
	F	37	.51	47.24 (7.75)	48.97 (8.14)	38.3 (9.2)	0.64	3	80%
Water Dept.	M	21	.38	46.04 (8.86)	50.52 (8.18)	39.8 (9.7)	0.80	3	80%
	F	8	.59	48.75 (5.39)	53.63 (9.93)	36.3 (10.4)	0.80	3	75%
College	M	145	.17	48.83	51.07	Approx.	N/A	3	N/A
	F	105	.23	47.69	52.37	44.1	N/A	3	N/A
	Total	250	.20	48.78 (7.16)	51.81 (8.68)				
City Employees Supervisory	M	17	.33	43.85 (5.65)	47.88 (6.71)	40.1 (7.9)	0.70	3	84%
ADP Evening Assertive- ness	M	27	.55	55.00	58.17	39.0 (7.9)	0.65	4	80%
	F	43	.49	54.85	58.60	43.4 (8.8)	0.70	3	80%
	Total	70	.51	54.92 (9.47)	58.39 (9.71)				

<sup>a</sup> Standard deviations in parentheses.<sup>b</sup> Education (grades completed): (0) less than 7, (1) less than 10, (2) high school grad., (3) some college, (4) college grad.<sup>c</sup> Not available from data taken.

ductory psychology class of 250 students enrolled at the University of Washington, five smaller "workshop" groups which received approximately eight hours of assertiveness training, and a group consisting of clients seeking assertiveness training as offered by the Adult Development Program (ADP).<sup>1</sup> Training sessions consisted of didactic, explaining the terms "aggressiveness" and "assertiveness" from a territorial perspective (Bakker & Bakker-Rabdau, 1973), modeling of appropriate assertive behavior, and behavioral rehearsal by the trainees. It should be noted that the dominant theme of these classes was on "assertive" behavior, connoted by defending, rather than the expansive type of behavior designated here as "aggressive."

### Results and Discussion

Table 1 gives the average assertiveness (*As*) scores and average aggressiveness (*Ag*) scores of the different standardization populations (standard deviations are in parentheses). Some descriptive data on age, current marital status, education and race are also included. Several features stand out on inspecting this table.

1. Both *As* and *Ag* scores appear to be relatively stable over a broad range of populations. The similarity in the scores of two very similar populations (nurses, Region A and nurses, Region B) is particularly striking. This was true in spite of the fact that posttest scores were not obtained on a sizeable proportion of Nurse A sample (a weekend "crash" course in which the importance of returning posttest did not receive the standard publicity).

2. A supervisory group had the highest scores on both of these dimensions (providing support for the construct validity), while people seeking assertiveness training to resolve personal problems had the lowest scores on both dimensions. (The higher the numerical score the lower the probability of exhibiting the behavior measured by the subscale.)

3. The often reported male/female differences in scores (males tending to score higher) were evident in groups in which

occupations differ (e.g., Water Department males were warehousemen, pipefitters, etc., whereas females tended to be clerical workers); however, this was not the case where jobs were actually the same (e.g., X-ray technicians/students).

4. Correlations between assertiveness scores varied widely from group to group, indicating that while both tendencies are frequently developed in parallel fashion in individuals, they are not necessarily interdependent.

### Reliability

Test re-test reliability data were collected on the large college student sample after six weeks. This group did not receive any kind of training in assertiveness. The Pearson product-moment correlation coefficients, computed on each subscale for this sample, were .75 on the assertiveness subscale and .88 on the aggressiveness subscale.

Split-half reliability data, computed on the nurses (Region A) population, were .58 and .67 for assertiveness and aggressiveness respectively. Although these reliability coefficients are lower than those reported elsewhere in the literature (e.g., Rathus, 1973) it should be noted that these reliability figures are highly sensitive to test length, and that these two subscales are approximately one-half the length of other assertiveness measures. These reliability coefficients are comparable (.73 and .80) to those of Rathus (1973) when extrapolated to a measure of equivalent length; (see Helmstadter, 1964, pp. 67-68 for a discussion of this point).

It is also noteworthy that the split-half reliabilities accounted for between 53% and 64% of the variance within each subscale, while the Assertiveness-Aggressiveness correlation (a "split half" assuming unidimensionality) explained only 28% of the variance between these dimensions, in spite of the fact that the computation was based on the Nurse A population, a group which had one of the highest *As/Ag* correlations. This lends further support to the notion that assertiveness and aggressiveness items indeed tap two different aspects of human behavior.

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Table 2

Average Improvement in Assertiveness and Aggressiveness Scores  
After Completion of Assertiveness Training Course

Population	n (Post)	Assertiveness		t (Within- s)	Aggressiveness		t (Within- s)
		Change	(SD)		Change	(SD)	
Nurses A	38	12.74	(8.67)	9.06**	7.68	(6.63)	7.14**
Nurses B	27	9.19	(7.67)	6.23**	4.96	(5.96)	4.32**
Water Dept. Males & Females	20	8.10	(7.48)	4.84**	6.20	(8.31)	3.54**
City Employees Supervisors	13	7.13	(6.85)	3.85**	5.31	(6.30)	3.04**
ADP Assertiveness (Evening)	45	9.38	(7.54)	8.35**	6.98	(5.96)	7.86**

\*  $p < .005$ .

\*\*  $p < .001$ .

### Item Analysis

An item analysis was performed on the X-ray technician population. It consisted of correlations between item scores for the 63 subjects and their subscale total on four dimensions, nine items each: Assertiveness ( $As+$ ); Nonassertiveness ( $As-$ ); Aggressiveness ( $Ag+$ ); and Nonaggressiveness ( $Ag-$ ). With one exception, each item matched its appropriate subscale of the four in terms of both direction (positive or negative keyed) and magnitude (highest of the four correlations). All but two of these correlations were significant at or beyond the  $p < .05$  level. Of the two low correlations, Item 11 was just below the  $p = .05$  level and was retained. The other low correlation, Item 36, was the single item which did not correlate maximally to its subscale  $Ag+$ ; however, it did correlate highly and negatively with  $Ag-$  ( $r = -.40, p < .01$ ). Since this was still consistent with the keying for the  $Ag$  scale this item was also retained in the inventory.

### Validity

The high split-half intercorrelations for aggressiveness and for assertiveness

and the lower assertiveness-aggressiveness intercorrelation is interpreted as supportive of the hypothesis that assertiveness and aggressiveness are different behavior patterns which do not necessarily co-vary in the same individual.

The several standardization samples were all compared to the combined college sample (male plus female). The college population was chosen as the reference group since it was by far the largest group and therefore would provide the best opportunity for significant group differences to become evident. None of the non-ADP populations was significantly different from the college standardization group, with the exception of the X-ray technicians' aggressiveness scores ( $p < .05$ ) and the supervisors' aggressiveness scores ( $p < .05$ ). In both cases the magnitude of difference is actually rather small, and the directionality suggests slightly greater assertiveness and aggressiveness. However, comparing the college population to the ADP clientele the magnitude is greater, with the ADP sample significantly lower on both assertiveness and aggressiveness ( $p < .001$ ).



Table 3

Correlation of X-ray Technicians' Assertiveness and Aggressiveness Scores with Various Statistical Data

Var.						
Age	1.0000					
Income	0.1760	1.0000				
Occupation <sup>b</sup>	0.1136	*0.2545	1.0000			
Education <sup>c</sup>	-0.1318	0.0517	**0.7045	1.0000		
Assertiveness	0.1466	0.0676	-0.0394	-0.1100	1.0000	
Aggressiveness	-0.0374	-0.1325	*-0.2499 <sup>a</sup>	*-0.2779 <sup>a</sup>	**0.3951	1.0000
	Age	Income	Occup. <sup>b</sup>	Education <sup>c</sup>	Assertive.	Aggress.

\* Significant at  $p < .05$ , 2-tailed  $t$  test.

\*\* Significant at  $p < .002$ , 2-tailed  $t$  test.

<sup>a</sup> Negative sign due to fact that a low score on test indicates a high level of aggressiveness.

<sup>b</sup> Occupation: (0) unemployed; (1) unskilled wage earner; (2) skilled wage earner; (3) own business; (4) professional.

<sup>c</sup> Education level: (0) less than 9; (1) less than 12; (2) high school graduate; (3) some college; (4) college graduate.

on all comparisons). The ADP sample was the only one consisting of individuals who came specifically to the program in order to improve their personal effectiveness. All the other groups were primarily professional workshops or training programs put on by management (city employees). It is apparent, therefore, that the scales are sensitive to differences in functioning.

Table 2 shows pre- and post-difference scores for the groups which received assertiveness training.

A within-subjects  $t$  test was performed for each group. The X-ray technician group has been omitted since they did not receive a posttest. All results were significant beyond the .005 level, supporting the sensitivity of the two measures to change. It is noteworthy that across all groups the assertiveness changes were greater in magnitude than the aggressiveness changes, presumably re-

fecting the dominant thrust of the training program. It would be of interest to measure the relative change on these two scores for a course in which the main thrust dealt with aggressive behavior.

Further support for this two-dimensional distinction is provided by Table 3, which correlates assertive scores and aggressive scores with various statistical data. Of particular relevance is the significant correlation between aggressiveness and occupation level, while no such relationship is evident between assertiveness and occupation level. There is a similar relationship between aggressiveness and amount of education. These findings make good sense as promotion and education primarily involve the ability to extend one's turf.

### Conclusion

The Bakker Assertiveness-Aggressiveness Inventory provides a useful measure

of two dimensions of competitive behavior, viz., (a) behaviors that augment territory or status, called aggressiveness, and (b) responsive defending behaviors that protect territory and privileges, called assertiveness. While it provides a discrete measure for each of these dimensions, the test is actually shorter than other assertive measures, e.g., Gambrill and Richey (1975) and Galassi et al. (1974).

The distinction between assertiveness skills and aggressiveness skills, a measure of which is provided by this inventory, has practical application toward the delineation of specific areas of behavioral deficits, and toward the evaluation of programs that seek to provide for amelioration of such deficiencies.

#### References

- Alberti, R. E., & Emmons, M. L. *Your perfect right: A guide to assertive behavior* (2nd ed.) San Luis Obispo: Impact, 1974.
- Bakker, C. B., & Bakker-Rabdau, M. K. *No trespassing! Explorations in human territoriality*. San Francisco: Chandler & Sharp Publishers, Inc., 1973. (Paperback ed. 1976).
- Bandura, A. *Principles of behavior modification*. New York: Holt, Rinehart & Winston, 1969.
- Buss, A. H. *The psychology of aggression*. New York: Wiley, 1971.
- Galassi, J. P., Delo, J. S., Galassi, M. D., & Bastien, S. The college self-expression scale: A measure of assertiveness. *Behavior Therapy*, 1974, 5, 165-171.
- Galassi, J. P., & Galassi, M. D. The relationship between assertiveness and aggressiveness. *Psychological Reports*, 1975, 36, 352-354.
- Gambrill, E., & Richey, D. An assertion inventory for use in assessment and research. *Behavior Therapy*, 1975, 6, 550-561.
- Helmstadter, D. C. *Principles of psychological measurement*. New York: Appleton-Century-Crofts, 1964.
- McFall, R. M., & Lillesand, D. B. Behavior rehearsal with modeling and coaching in assertion training. *Journal of Abnormal Psychology*, 1971, 77, 313-323.
- Rathus, L. A. A 30-item schedule for assessing assertive behavior. *Behavior Therapy*, 1973, 4, 398-406.
- Rich, A. R., & Schroeder, H. E. Research issues in assertiveness training. *Psychological Bulletin*, 1976, 83, 1081-1096.
- Salter, A. *Conditioned reflex therapy*. New York: Capncorn, 1961.
- Wolpe, J. *The practice of behavior therapy*. New York: Pergamon Press, 1969.
- Wolpe, J., & Lazarus, A. A. *Behavior therapy techniques: A guide to the treatment of neurosis*. New York: Pergamon Press, 1966.

#### Appendix A Assertiveness Test Items

- You have set aside the evening to get some necessary work done. Just as you get started some friends drop over for a social visit.
- You welcome them in and postpone what you had planned to do.
- You are standing in line when someone pushes ahead of you.
- + You tell the person to get back in line behind you.
- A friend or relative asks to borrow your car or other valuable property but you would prefer not to lend it to them.
- You lend it to them anyway.
- A person who has kept you waiting before is late again for an appointment.
- You ignore it and act as if nothing has happened.
- Someone has, in your opinion, treated you unfairly or incorrectly.
- + You confront the person directly concerning this.
- Friends or neighbors fail to return some items they have borrowed from you.
- + You keep after them until they return them.
- Others put pressure on you to drink, smoke pot, take drugs, or eat too much.
- + You refuse to yield to their pressure.
- Another person interrupts you while you are speaking.
- You wait until the other is finished speaking before you go on with your story.
- You are asked to carry out a task that you do not feel like doing.
- + You tell the other that you don't want to do it.
- Your sexual partner has done something that you do not like.
- You act as if nothing bothersome has happened.
- A salesperson has spent a great deal of time showing you merchandise but none of it is exactly what you want.
- You buy something anyway.
- You are invited to a party or other social event, which you would rather not attend.
- You accept the invitation.

In concert with the person next to you.

- + You ask them to be quiet or move somewhere else.

In a restaurant you receive food that is poorly prepared.

- + You ask the waiter or waitress to replace it.

You receive the food or the good you ordered.

- + You return the merchandise.

A person who seems to be worse off than you is without but you don't like to.

- You give the person what he/she asks for.

Someone gives you a gift or a small amount of money.

- + You tell the other you are not interested.

Friends or parents try to get information from you.

- You give them the information they want.

### Aggressiveness Test Items

You have been appointed to a newly formed committee.

- + You take a leadership role.

You are in a bus or plane sitting next to a person you have never met.

- + You strike up a conversation.

You are asked to help a person with a second helping.

- + You go ahead and take a second helping.

You are being interviewed for a job you really want to get.

- You undersell yourself.

You are meeting or greeting several people.

- + You put your arm around their shoulder, or slapping their back.

You are asked to tell a person about it.

- You don't tell that person about it.

You are asked to wait a long time for service.

- + You manage to get service ahead of other customers.

You observe someone behave in a suspicious manner.

- You don't do anything because it is none of your business.

meter.

- + You ask a passerby for the change.

Someone has done or said something that arouses your curiosity.

- You refrain from asking questions.

changed.

- + You tell the other person about this as soon as possible.

You are asked to wait for your boss to bring the matter up.

- You wait for your boss to bring the matter up.

conversation.

- + You dominate the conversation most of the time.

You are asked to participate in a conversation.

- You remain a listener rather than participate.

You want a favor done by a person you do not know too well.

- You prefer to do without rather than ask that person.

You are asked to make social contacts.

- You prefer to do without rather than ask that person.

You see an opportunity to take advantage of a situation.

- + You take the opportunity and forge ahead.





During the course of research on self-consciousness, questions have arisen concerning the relationship of the subscales with other personality measures; most notably, measures of general reflectiveness, self-regulation, and social desirability. At issue is the construct and discriminant validity of the self-consciousness subscales. To address these questions, the present paper reports data from six large samples (total  $N = 1395$ ) taken from various geographic areas of the United States.

### *Method*

Each of the six samples consisted of college students who completed the personality measures to receive research credit in an introductory psychology or social science class. Except in the third sample, all measures were completed during the first week of classes.

Sample 1 consisted of 179 students at Pepperdine University who during the fall of 1976 completed the Self-Consciousness Scale, the Guilford-Zimmerman Thoughtfulness Scale (Guilford & Zimmerman, 1949), and a revised version of the Paivio Imagery Inventory (Hiscock, 1976).

Subjects in Sample 2 were 146 students at Pepperdine during the winter of 1977 who completed the Self-Consciousness Scale, the Self-Monitoring Scale (Snyder, 1974), and the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964).

Sample 3 consisted of 122 students at the University of Miami who during the fall of 1976 completed the Self-Consciousness Scale during the first week of class and the Marlowe-Crowne Social Desirability Scale several weeks later.

The fourth sample was comprised of 505 students at the University of Wisconsin-Madison during the spring of 1976 who completed the Self-Consciousness Scale, the Morse and Gergen (1970) Self-Esteem Scale, the Bem Sex Role Inventory (Bem, 1974), and the Self-Monitoring Scale.

Sample 5 consisted of 258 students at The University of Texas at Austin who, during the spring of 1975, took the Self-Consciousness Scale, the Sociability

Scale from the EASI Form III (Buss & Plomin, 1975), Section III of the Test Anxiety Scale of Mandler and Sarason (1952), and the Self-Monitoring Scale.

Sample 6 was composed of 185 students at Carnegie-Mellon University who took the Self-Consciousness Scale and the Self-Monitoring Scale during the fall of 1976.

Approximately equal numbers of men and women were included in the samples. Since analyses by sex revealed no substantive sex differences, the data for men and women were combined for all analyses.

### *Results and Discussion*

For each of the six samples, the correlations of the subscales of the Self-Consciousness Scale with the other personality measures are presented in Table 1. In addition, the weighted average of the intercorrelations of the subscales for all 1395 subjects are presented at the bottom of Table 1.

Private self-consciousness was significantly correlated with both thoughtfulness and imagery in Sample 1. The significant correlation of thoughtfulness with public self-consciousness was not predicted and may possibly reflect the intercorrelation of the two self-consciousness subscales. According to these results, subjects high in private self-consciousness report themselves to be generally reflective and philosophically inclined and to create and commonly employ mental images in thinking about both personal and impersonal problems. These findings support the construct validity of the private self-consciousness subscale.

Both Samples 2 and 3 included the Social Desirability Scale. The weighted average of the correlations of this scale with the self-consciousness subscales was  $-.06$  for private self-consciousness,  $.04$  for public self-consciousness, and  $-.12$  for social anxiety, all insignificant at the  $.01$  level. These results indicate that none of the self-consciousness subscales share a significant degree of variability with the social desirability measure. Thus, social desirability would not seem to provide a viable alternative explanation for results of previously re-

Table 1  
Correlates of the Three Subscales of the Self-Consciousness Scale

	Private Self-Consciousness	Public Self-Consciousness	Social Anxiety
Sample 1 ( <i>n</i> = 179)			
Guilford-Zimmerman Thoughtfulness	.48*	.22*	.09
Paivio Imagery	.30*	.05	-.10
Sample 2 ( <i>n</i> = 146)			
Marlowe-Crowne Social Desirability	.02	.06	-.03
Self-Monitoring	.27*	.22*	-.37*
Sample 3 ( <i>n</i> = 122)			
Marlowe-Crowne Social Desirability	-.15	.01	-.23*
Sample 4 ( <i>n</i> = 505)			
Self-Esteem	-.26*	-.26*	-.35*
Bern Sex Role Inventory			
Masculinity	-.10	-.15*	-.39*
Femininity	.11	.17*	.25*
Self-Monitoring	.13*	.24*	-.12*
Sample 5 ( <i>n</i> = 258)			
Emotionality	.21*	.21*	.31*
Sociability	-.13	.16	-.39*
Test Anxiety	-.02	.20*	.23*
Self-Monitoring	.16	.19*	-.18*
Sample 6 ( <i>n</i> = 185)			
Self-Monitoring	.11	.30*	-.29*
Samples 1 thru 6 ( <i>n</i> = 1395)			
Private <sup>a</sup>		.31*	.14*
Public <sup>a</sup>			.21*

<sup>a</sup> Correlations are based on a weighted average of the individual correlations from each sample (Guilford & Fruchter, 1973).

\*  $p < .01$ .

ported studies of self-consciousness.

Four samples (Nos. 2, 4, 5, 6; total  $N=1094$ ) completed the Self-Monitoring Scale. The weighted average of the correlations between the self-consciousness subscales and self-monitoring was .15 for private self-consciousness, .24 for public self-consciousness, and -.20 for social anxiety. Although each of these correlations is significant at the .01 level, it is clear that self-consciousness and self-monitoring are discriminable constructs with minimal shared variance (6% for self-monitoring and public self-consciousness).

Consistent with the reasoning proposed by Ickes, Wicklund, and Ferris (1973), the self-esteem measure was negatively correlated with each of the self-consciousness subscales in Sample 4. This sample also provides the correlations between each of the subscales and the scales of the Bem Sex Role Inventory. In brief, public self-consciousness and social anxiety tended to be associated with low masculine, high feminine sex-role descriptions. The similarity of self-esteem and sex role identification in their relationship to the three self-consciousness subscales possibly reflects the correlation of .49 between self-esteem and masculinity in this sample.

In general, the correlations involving the measures of emotionality, sociability, and test anxiety in Sample 5 replicated the results obtained by Carver and Glass (1976). As in this earlier study, sociability was found to be positively correlated with public self-consciousness but negatively correlated with social anxiety. However, only the correlation with social anxiety was significant at the .01 level. Of additional interest was the replication of only minimal correlation between emotionality and public and private self-consciousness and between test anxiety and social anxiety. This latter result reinforces the conclusion of Carver and Glass (1976) that the social anxiety subscale is rather specific to the measurement of anxiety occurring in social situations.

In conclusion, although the self-consciousness subscales were significantly correlated with many of the other personality measures the shared variance

was usually less than 10%. Even the largest correlation  $r=.48$  or 23% shared variance (between private self-consciousness and thoughtfulness) was not so large as to undermine the distinctiveness of the subscale. A combination of the present results with those of Carver and Glass (1976) and Fenigstein et al., (1975) provides a sound psychometric basis for the use of the Self-Consciousness Scale in experimentation and personality assessment.

#### References

- Bem, S. L. The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 1974, 42, 155-162.
- Buss, A. H., & Plomin, R. *A temperament theory of personality development*. New York: Wiley, 1975.
- Carver, C. S., & Glass, D. C. The self-consciousness scale: A discriminant validity study. *Journal of Personality Assessment*, 1976, 40, 169-172.
- Crowne, D. P., & Marlowe, D. *The approval motive*. New York: Wiley, 1964.
- Duval, S., & Wicklund, R. A. *A theory of objective awareness*. New York: Academic Press, 1972.
- Fenigstein, A. *Self-consciousness, self-awareness, and rejection*. Unpublished doctoral dissertation, The University of Texas at Austin, 1974.
- Fenigstein, A., Scheier, M. F., & Buss, A. H. Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, 1975, 43, 522-527.
- Guilford, J. P., & Fruchter, B. *Fundamental statistics in psychology and education*. New York: McGraw-Hill, 1973.
- Guilford, J. P., & Zimmerman, W. S. *The Guilford-Zimmerman Temperament Survey: Manual of instruction and interpretations*. Beverly Hills, California: Sheridan Supply Company, 1949.
- Hiscock, M. Effects of adjective imagery on recall prose. *Journal of General Psychology*, 1976, 94, 295-299.
- Ickes, W., Wicklund, R. A., & Ferris, C. B. Objective self-awareness and self-esteem. *Journal of Experimental Social Psychology*, 1973, 9, 202-219.
- Mandler, G., & Sarason, S. B. A study of anxiety and learning. *Journal of Social and Abnormal Psychology*, 1952, 47, 166-173.
- Morse, S., & Gergen, K. Social comparison, self-consistency, and the concept of self. *Journal of Personality and Social Psychology*, 1970, 16, 264-273.
- Paivio, A. *Imagery and verbal processes*. New York: Holt, Rinehart & Winston, 1971.
- Scheier, M. Self-awareness, self-consciousness, and angry aggression. *Journal of Personality*, 1976, 44, 627-644.

Scheier, M. F., Buss, A. H., & Buss, D. M. Self-consciousness, self-report, and aggression. *Journal of Research in Personality*, in press.

Scheier, M., & Carver, C. S. Self-focused attention and the experience of emotion: Attraction, repulsion, elation and depression. *Journal of Personality and Social Psychology*, 1977, 35, 625-636.

Scheier, M. F., Carver, C. S., Schulz, R. G., & D. C., & Katz, I. Sympathy, self-consciousness, and reactions to the stigmatized. *Journal of Applied Social Psychology*, in press.

Snyder, M. Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 1974, 30, 526-537.

Turner, R. G. Self-consciousness and anticipatory belief change. *Personality and Social Psychology Bulletin*, 1977, 3, 438-441.

Turner, R. G. Effects of differential request procedures and self-consciousness on trait attributions. *Journal of Research in Personality*, in press. (a)

Turner, R. G., Scheier, M. F., Carver, C. S., & Tices, W. Self-consciousness and the experience of emotion: Attraction, repulsion, elation and depression. *Journal of Consulting and Clinical Psychology*, 1977, 45, 490-491.

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## Developing a Measure of Loneliness

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**Summary:** Research on loneliness has been hindered by the lack of a simple and reliable assessment technique. The development of the UCLA Loneliness Scale, a short, 20-item general measure of loneliness is reported. The measure has high internal consistency (coefficient  $\alpha = .96$ ) and a test-retest correlation over a two-month period of .73. Concurrent and preliminary construct validity are indicated by correlations with self-reports of current loneliness and related emotional states, and by volunteering for a "loneliness clinic."

Loneliness is a common problem for many Americans (see reviews by Donson & Georges, 1967; Gordon, 1976; Weiss, (1973). Weiss (1973) concludes that "loneliness is a condition that is widely distributed and severely distressing" (p. 9). Despite the pervasiveness of loneliness, however, very little empirical research has been directed at the problem. Little is known about the causes of loneliness, the subjective experience of loneliness, or effective interventions to alleviate loneliness.

A major hindrance to research on loneliness has been the lack of a simple and reliable method of assessment. Two approaches to measuring loneliness have been used by previous researchers. Some have sought to develop general scales of overall loneliness (e.g., Bradley, 1969; Eddy, 1961; Sisenwein, 1964). Others have attempted to identify different components or types of loneliness (e.g., Belcher, 1973; Schmidt, 1976). To date, none of these loneliness scales has been published or received general acceptance as a standard measure of loneliness.

Previous measures of loneliness suffer from a variety of problems. The scales are typically lengthy, ranging from 38 to over 75 items. Internal consistency has varied widely. For instance, Eddy (1961) found a split-half reliability of only .67 for his scale, while Schmidt (1976) reported KR-20s ranging from .90 to .94 for 60-item and 100-item versions of her scale. Finally, a recurrent problem in as-

sessing loneliness has been the lack of adequate external validity criteria. Eddy (1961) and Sisenwein (1964) both relied exclusively on a single self-report question about current loneliness to validate their scales. This is problematic since self-report measures may be easily affected by social desirability concerns. Other researchers have sought to validate loneliness scales by group comparisons. Belcher (1973) compared loneliness scale scores of "normal" college students and students receiving counseling for "severe emotional problems" (not necessarily loneliness). Bradley (1969) compared college students and prison inmates. Unfortunately, the groups used in these comparisons may differ on many dimensions (such as pathology), and do not clearly distinguish lonely and nonlonely populations. The present article reports the development of a short and highly reliable general loneliness scale that appears to have concurrent and construct validity, based on several criteria.

### Method

#### Participants

A total of 239 young adults were recruited at UCLA as part of a larger investigation of loneliness. Participants were recruited in three different ways: (a) *Clinic Sample:* In response to ads placed in the student newspaper directed at students who had been "feeling lonely," 12 people participated in a three-week clinic/discussion group on loneliness. (b) *Comparison Sample:* A group of 35 volunteers from a Social Psychology class were tested concurrently with the Clinic Sample. (c) *Student Sample:* A

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group of 192 undergraduate students in Introductory Psychology classes participated in order to satisfy a course requirement, and were tested separately from the two other groups.

### Procedure

An initial pool of 25 items was selected from the 75-item loneliness scale developed by Sisenwein (1964). His items were based on statements written by 20 psychologists describing the experience of loneliness, and also on statements from Eddy's (1961) earlier scale. For the present study, 25 items were selected to preserve diversity yet exclude very extreme statements (e.g., "Death will be my only companion"). Items selected included such statements as "I cannot tolerate being so alone" and "No one really knows me well." Participants responded on the 4-point scale used by Sisenwein, ranging from "I never feel this way" to "I often feel this way." For each participant, a total loneliness scale score was computed based on the simple sum of responses to the 25 items. (This contrasts with Sisenwein's scoring procedure, which gave different weights to individual items to arrive at a weighted total loneliness score.)

In addition to completing the loneliness scale, participants filled out other questionnaires. These included a subjective self-report measure of current loneliness similar to those used by Eddy (1961) and Sisenwein (1964) as an external validity criterion. Specifically, participants indicated the degree of their current loneliness on a 5-point scale ranging from "much less lonely than others" to "much more lonely than others." In addition, students described their current mood

and feelings by rating each of 25 adjectives (e.g., "restless," "empty," "depressed," and "bored"). These included adjectives selected from the literature on loneliness (e.g., Belcher, 1973; Gordon, 1976; Weiss, 1973) to reflect feelings hypothesized to accompany loneliness.

Data analysis addressed several issues. First, a revised loneliness scale was developed from the initial 25-item pool, based on the correlation of each item to the total loneliness scale score. Second, internal consistency of the revised scale was assessed by calculating the alpha coefficient (Cronbach, 1960). Finally, the validity of the revised scale was assessed in several ways. Scores on the loneliness scale were correlated with the self-report question about current loneliness. Comparisons were made between the loneliness scale scores of participants in the Clinic Sample and the Comparison Sample. Finally, participants' self-ratings on feelings believed to be associated with loneliness were correlated with the loneliness scale score.

### Results and Discussion

Based on the correlation of each item to the total loneliness score, 20 of the initial 25 items were selected for the final UCLA Loneliness Scale. These items all had correlations of over .50 with the total score found by summing responses to the initial 25 items.

#### *The UCLA Loneliness Scale.*

The 20 items comprising the final loneliness scale are presented, along with instructions for participants and the response scale:

#### The UCLA Loneliness Scale

Indicate how often each of the statements below is descriptive of you. Circle one letter for each statement:

- O indicates "I *often* feel this way"  
 S indicates "I *sometimes* feel this way"  
 R indicates "I *rarely* feel this way"  
 N indicates "I *never* feel this way"

- |  |   |   |   |   |
|--|---|---|---|---|
| 1. I am unhappy doing so many things alone. .... | O | S | R | N |
| 2. I have nobody to talk to. ....                | O | S | R | N |
| 3. I cannot tolerate being so alone. ....        | O | S | R | N |
| 4. I lack companionship. ....                    | O | S | R | N |

5. I feel as if nobody really understands me. . . . . O S R N
6. I find myself waiting for people to call or write. . . . . O S R N
7. There is no one I can turn to. . . . . O S R N
8. I am no longer close to anyone. . . . . O S R N
9. My interests and ideas are not shared by those around me. . . . . O S R N
10. I feel left out. . . . . O S R N
11. I feel completely alone. . . . . O S R N
12. I am unable to reach out and communicate with those around me. . . . . O S R N
13. My social relationships are superficial. . . . . O S R N
14. I feel starved for company. . . . . O S R N
15. No one really knows me well. . . . . O S R N
16. I feel isolated from others. . . . . O S R N
17. I am unhappy being so withdrawn. . . . . O S R N
18. It is difficult for me to make friends. . . . . O S R N
19. I feel shut out and excluded by others. . . . . O S R N
20. People are around me but not with me. . . . . O S R N

### Reliability

The UCLA Loneliness Scale shows high internal consistency for a scale of only 20 items. For the total sample of 239 students, coefficient alpha was .96. It is important to note that this level of coefficient alpha exceeds Nunnally's (1967) criterion for a measure to be used in an applied clinical setting. Data are available from Jones (Note 1) regarding the test-retest reliability of the 20-item UCLA Loneliness Scale. Based on a sample of 102 University of Tulsa student volunteers assessed over a 2-month period, a test-retest correlation of .73 was found. This suggests that there is some stability in the measure over time, despite changes in an individual's level of loneliness that might be expected to occur in a two-month period.

### Validity

The UCLA Loneliness Scale was examined in relation to several validity criteria. The correlation between the subjective self-report question about current loneliness and the loneliness scale score was highly significant ( $r(45) = .79, p < .001$ ). High scorers on the loneliness scale described themselves as more lonely than other people. Loneliness scores of people who were sufficiently troubled by loneliness to volunteer for a 3-week clinic/discussion program differed dramatically from scores of students in a comparison group who were tested concurrently. The mean lone-

liness scale score of clinic participants was 60.1 compared to a mean of 39.1 for the comparison sample ( $t(41) = 5.09, p < .001$ ).

Further validation is provided by evidence linking scores on the UCLA Loneliness Scale to other emotional states. It has been suggested (e.g., Belcher, 1973; Leiderman, 1969; Ortega, 1969) that loneliness is associated with depression and with anxiety. In the present study, scores on the UCLA Loneliness Scale correlated with participants' self-ratings of being "depressed" ( $r[131] = .49, p < .001$ ) and "anxious" ( $r[131] = .35, p < .001$ ). In a separate study of students at the University of Tulsa, Jones (Note 1) found that the UCLA Loneliness Scale correlated significantly with the Beck (1967) depression scale ( $r[47] = .38, p < .01$ ) and with the anxiety subscale of the Multiple Affect Adjective Checklist (Zuckerman & Lubin, 1965) ( $r[65] = .43, p < .01$ ).

Data available from 133 participants in the present study provided further information about the correlates of loneliness scale scores. Consistent with the view of loneliness as an exceedingly unpleasant experience (e.g., Sullivan, 1953; Weiss, 1973), loneliness scale scores were associated with low self-ratings of "satisfaction" ( $r = -.43, p < .001$ ) and being "happy" ( $r = -.40, p < .001$ ). Specific emotional correlates of loneliness suggested by Gordon (1976) and Weiss (1973) were also confirmed. Scores on



Table 1

Statistics for the UCLA Loneliness Scale from Two University Samples

	UCLA Sample		Tulsa Sample		Total
	Males	Females	Males	Females	
Sample size	76	151	130	135	492
Mean Scale score	38.7	40.2	38.6	37.8	38.9
Standard Deviation	11.0	12.4	9.4	9.7	10.6
Median	38	37	38	37	37
Mode	36	33	42	35	35
Range	20-69	20-76	20-61	20-65	20-76

*Note:* The UCLA Sample includes participants in the "Comparison" and "Student" groups, but excludes participants in the "Clinic" sample. The Tulsa Sample is comprised of undergraduates at the University of Tulsa tested by Jones (Note 1).

the UCLA Loneliness Scale were significantly (all  $p < .001$ ) correlated with feeling "empty" ( $r = .58$ ), "self-enclosed" ( $r = .54$ ), "awkward" ( $r = .46$ ), "restless" ( $r = .38$ ) and "bored" ( $r = .36$ ). Lonely students were also more likely to describe themselves as "shy" ( $r = .45, p < .001$ ) and to rate themselves less "attractive" ( $r = -.30, p < .001$ ). Finally, it is worth noting that loneliness scores did not correlate with self-ratings on such irrelevant adjectives as "hard-working" and having "wide interests," providing some evidence of the scale's discriminant validity.

In summary, the validity of the UCLA Loneliness Scale is indicated in several ways. The content of individual items provides face validity for the scale. Concurrent validity is shown by the relationship of scale scores to self-reports of current loneliness and to volunteering for a loneliness "clinic." Finally, correlates of scores on the UCLA Loneliness Scale support theoretical views linking loneliness to emotional states such as depression, anxiety, or feelings of boredom and emptiness.

#### *Normative Data*

Although no attempt has been made to collect representative normative data

for the UCLA Loneliness Scale, some data on college samples are available from the current investigation and from research presently underway at the University of Tulsa (Jones, Note 1). Summary statistics for loneliness scale scores of students in these two samples are shown in Table 1. As can be seen from the table, no regional or sex differences were found.

In conclusion, loneliness is a serious mental health problem, and the lack of research concerning its causes and possible treatment is disturbing. It is hoped that the adequacy and convenience of the UCLA Loneliness Scale will spur new research into this important topic.

#### *Reference Note*

1. Jones, W. H. Personal communication, May, 1977.

#### *References*

- Beck, A. T. *Depression: Causes and Treatment*. Philadelphia: University of Pennsylvania Press, 1967.
- Belcher, M. *The measurement of loneliness: A validation study of the Belcher Extended Loneliness Scale (BELS)*. (Doctoral dissertation, Illinois Institute of Technology, 1973). (University Microfilms No. 74-16, 990).
- Bradley, R. *Measuring loneliness* (Unpublished doctoral dissertation, Washington State University, 1969).



- Cronbach, L. J. *Essentials of psychological testing*. New York: Harper & Row, 1960.
- Donson, C., & Georges, A. *Lonely-land and bed-sitter-land*. Bala, North Wales: Chappies, 1967.
- Eddy, P. D. *Loneliness: A discrepancy within the phenomenological self*. Unpublished doctoral dissertation, Adelphi College, 1961.
- Gordon, S. *Lonely in America*. New York: Simon & Schuster, 1976.
- Leiderman, P. H. Loneliness: A psychodynamic interpretation. In E. S. Schneidman & M. J. Ortega (Eds.), *Aspects of depression*. Boston: Little, Brown & Co., 1969.
- Nunnally, J. C. *Psychometric theory*. New York: McGraw-Hill, 1967.
- Ortega, M. J. Depression, loneliness and unhappiness. In E. S. Schneidman & M. J. Ortega (Eds.), *Aspects of depression*. Boston: Little, Brown & Co., 1969.
- Schmidt, N. *The construction of a scale for the measurement of loneliness*. Unpublished master's thesis, York University, 1976.
- Sisenwein, R. J. *Loneliness and the individual as viewed by himself and others*. (Doctoral dissertation. Columbia University, 1964). (University Microfilms No. 65-4768).
- Sullivan, H. S. *The interpersonal theory of psychiatry*. New York: Norton, 1953.
- Weiss, R. S. (Ed.) *Loneliness: The experience of emotional and social isolation*. Cambridge, Mass.: MIT Press, 1973.
- Zuckerman, M., & Lubin, B. *Manual for the Multiple Affect Adjective Checklist*. San Diego, Calif.: Education and Industrial Testing Service, 1965.

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## Social Cues, Cognitive Style, Error Magnitude, and Male Performance on the Felt Figure Replacement Technique

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*Summary:* A series of studies was undertaken to determine possible factors contributing to low predictive utility for Felt Figure Replacement Technique (FFRT) scores from normal, adult males. It was first postulated that normal adult males, compared to normal adult females, are less sensitive to social cues present in the FFRT task. Twenty-six undergraduate males and the same number of undergraduate females were asked to replace both a) department store manikins, thought to be less abstract, and then b) felt figures. While task differences were obtained, these were not dependent on gender, nor did any overall gender differences occur for three types of replacement error. The second study involved 31 college males and 33 college females replacing both felt figures and a male and female confederate. It was assumed that differential attention to social cues would be more visible in this comparison. The general results were identical to the first study.

The reports of previous studies of social schemata have revealed a curious phenomenon. Performance scores on Kuethe's (1962) Felt Figure Replacement Technique (FFRT) or similar schemata-eliciting methodologies, have shown social schemata to be related to various personality/social factors when a combination of male and female subjects are used (Brannigan & Tolor, 1971; Estes & Rush, 1971; Fisher, R. L., 1967; Kuethe & Weingartner, 1964; Levinger & Gunner, 1967; Levinger & Moreland, 1969; Little, 1965, 1968; Rubin, 1969; Tolor, 1970 b; Tolor & Orange, 1969). Similar successful prediction has been achieved in some studies using only females (Gottheil, Corey, & Parades, 1968; Gottheil, Parades, & Exline, 1968). Yet, with few exceptions (Little, Uehla, & Henderson, 1968; Magaro, 1972) social schemata research has failed to reflect stable relationships between social schemata and other psychological variables for that normal, adult male (LeBlanc & Tolor, 1972; Tolor,

1970 a; Tolor, Cramer, D'Amico, & O'Marra, 1975). This failure is particularly pronounced for the FFRT (Klopper, Jackson, Wolfe, & Jeffrey, 1977; Tolor & Salafia, 1971).

Social schemata are the rules or principles by which an individual recognizes the existence of, or quality reflected by, a social unit. The FFRT methodology requires the subject to replace a briefly observed set of figures, an "object set," cut from felt material, on a different colored felt cloth background. The figures used in the object set are often small, human silhouettes. It is presumed that inaccuracy in replacement reflects psychosocial needs for the subject in his/her social interactions. Why, then, has replacement inaccuracy failed as a predictor of personality variables only for the normal adult male?

C. T. Fisher (1968) has argued that males performing this spatial task are more concerned with the metric qualities of their performance than females. If measurement accuracy is a prime concern for males, they should be vulnerable to cues of extraneous spatial information. Holahan and Levinger (1971) found FFRT performance in males to be signif-

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icantly influenced by the distance between subject and experimenter. Greater subject-experimenter distance was associated with greater distance between replaced figures in the FFRT. Holahan and Leviner also failed to find evidence of a relationship between the friendliness of the experimenter to the subjects, and the subjects' subsequent replacement distance. Such a relationship might have been expected since FFRT distance is thought to be related to psychological distance.

Conversely, an explanation for the predictive ability of FFRT scores with females might be that they are more sensitive to nonmetric, social cues in the experiment. For example, females have been shown to be affected by the friendliness of the experimenter. Greater distance between felt figures has been observed when the subject was confronted with a hostile, rejecting, as opposed to a friendly, accepting experimenter (Martin & Van Dyck, 1968).

A replacement task using more human-like figures, department store manikins, when compared to felt figure replacement, should provide a good test of these notions. If females replace the manikins with greater error than proportional FFRT measures, then indeed social sensitivity in females may account for successful predictions of personality with females. On the other hand, if males are more concerned with the physical properties of the figure replacement, the object being replaced should have little influence on accuracy. A series of studies were undertaken to clarify the nature of FFRT performance in the normal, adult male.

### *Study I*

#### *Method*

#### *Subjects*

The subjects in this study were 26 male and 26 female undergraduates at Oregon State University enrolled in lower division psychology courses. All subjects volunteered their participation in exchange for additional, optional course credit.

#### *Procedure*

Each subject was asked to perform two

tasks, and the order of the tasks was counterbalanced across subjects. One task was the standard FFRT task. Each subject briefly viewed a Man-Woman (MW) object set of figures from a distance of 4.13 meters. The period of observation was five seconds. The frontal silhouette figures were cut from yellow felt and placed on a blue felt-covered board. The background board was 119 cm. wide and 175 cm. high. The background board was placed on a stand such that the bottom of the board was 78.5 cm. from the floor. The experimenter's initial positioning was to place the Man figure to the left and the Woman figure to the right; each figure was 25 cm. from the (unmarked) vertical axis of the board. The figures were placed in a line along the (unmarked) horizontal axis of the board.

After the viewing of the figures, the experimenter removed them from the board while the subject's back was turned. The figures were handed to the subject, who was asked to replace them as they were. Following the first replacement task, the subject was asked to sit outside the testing room while three FFRT error scores were calculated, distance error, vertical error, and horizontal error.

Distance error scores conveyed information about the degree to which replacement distance between the two figures differed from 50 cm., the distance in the original placement. Distance was assessed between the center of the two figures. Distance error was scored negatively or positively, in one cm. units. A negative distance error meant that the figures were replaced that many centimeters too close together, and positive distance error meant too far apart. Distance measures are the traditional measures of FFRT performance, and are thought to denote underlying dimensions such as psychological intimacy in social relationships (Engelbreton, 1973) or introversion/extraversion (Tolor, 1975).

While calculating distance error, the location of the midpoint on the line connecting the center of the two figures was determined. This midpoint entered into the measurement of both vertical error and horizontal error. Vertical error scores convey information about the de-

gree to which both figures are replaced above or below the middle of the board. The experimenter's initial placement was in the middle, along the (unmarked) horizontal axis. Vertical error is the distance, in centimeters, between the midpoint just described and the horizontal axis. A positive vertical error score meant the figures were replaced that many centimeters too high, and a negative score that far too low. A similar task measure has been described by Tolor (1975) and Levinger and Gunner (1967) but we have previously found the specific measurement procedure these investigators discuss to yield unreliable data (see the discussion of angularity error in Klopfer et al., 1977). Yet we believe this reliable measure to be related to the same type of psychological dimension earlier postulated, status or perhaps dominance/submissiveness (Tolor, 1975). In support, Gowin (1915) and Stogdill (1948) have found stature to be positively related to status. Further Esser, Chamberlain, Chapple, and Kline (1965) find evidence of a relationship between dominance and the use of space.

Horizontal error conveys information about the extent to which a subject replaces both figures to the left or right of the original placement. Since the original placement centered the two figures each 25 cm. from the (unmarked) vertical axis, horizontal error is measured as the distance between the midpoint described earlier and the vertical axis, in centimeters. Positive horizontal error scores meant the figures were replaced that many centimeters to the right, and negative scores meant replacement to the left of the original placement. We believe this measure may reflect an underlying dimension of perceived power or influence in a social relationship, at least in our paradigm. The assumption that perceived power may affect the extent of horizontal error need not rest on abstract psychophysical principals (e.g., perceptual rules of horizontality, orienting reflex). Rather, the assumption is a simple consequence of the Man felt figure being placed on the left, and the Woman on the right. If a subject primarily focuses psychological attention on a woman in mixed

sex dyadic relationships then we believe that individual would attend more to the right side of the background during replacement. Such behavior would result in positive scores of horizontal error.

Each subject not only replaced felt figures, but replaced two manikins, one male and one female, as well. The manikins were dressed in casual clothing typical of Oregon State University students, and mounted on plywood platforms. Manikin replacement followed the same general procedure as felt figure replacement. Each subject viewed the manikins from a distance of 4.13 m. from the background field for five seconds. With the subject's back turned, the manikins were then carried to the subject, who was asked to replace them as they were.

The unit of measurement used to calculate manikin replacement error scores needed to be modified to insure error scores comparable with FFRT replacement inaccuracy. For example, replacing felt figures 21 and 24 cm. tall, 15 cm. too close together would reflect a much more serious error than replacing two full-size manikins 15 cm. too close. The appropriate unit of measurement for manikin replacement error was determined to be 2.63 cm. Thus, a 15 cm. error with felt figures was deemed equivalent to a  $2.63 \times 15$ , or 39.45 cm. error with manikins. The 2.63 cm. conversion was defined by applying the same length to width ratio used on the FFRT background board to the floor space in the testing room. The 2.63 cm. conversion allowed 175 units of width and 119 units of height for both figure and manikin replacement.

Three sides of the floor space used in manikin replacement were bounded by walls. The fourth side was delineated by a clearly visible line of wide masking tape. The subject viewed the manikins from a location outside the masking tape 4.13 m. from the midpoint between the manikins. The manikins were replaced 131.5 cm., or 50 2.63 cm. units, apart in the middle of the background floor area.

Using this proportional unit of measurement, the procedure for calculating distance error and horizontal error for manikin replacement was identical to



that described for felt figure replacement. The conceptualization of vertical error, displacement up or down, obviously needed modification, since manikins were replaced on a flat surface. It was decided that for manikin replacement, positive vertical error scores would be allocated to displacement away from the subject's point of initial observation, and negative vertical error for displacement towards that point.

Using the procedures described above, measures of distance error, vertical error and horizontal error were derived for both felt figure and manikin replacement. The effect of the two independent variables, sex of subject (male versus female)  $\times$  task (felt figure replacement versus manikin replacement) on replacement inaccuracy was then assessed independently for each of the three types of errors. The three assessments were made with a split-plot factorial analysis of variance with one between factor, sex, and one within factor, task.

### Results

The analysis of distance error indicated differential accuracy between the two tasks,  $F(1:50) = 13.087, p < .01$ , but no overall sex differences,  $F(1:50) = 0.520$ , n.s., and no interaction between sex and task,  $F(1:50) = .057$ , n.s. Felt figures were replaced closer than manikins.

The same pattern was reflected in vertical error differences. Felt figures were replaced higher, and manikins lower (toward the subject), and this difference was reliable,  $F(1:50) = 17.806, p < .01$ . Yet no reliable sex differences,  $F(1:50) = 0.001$ , n.s., or interaction of sex with task differences,  $F(1:50) = 0.037$ , n.s. were obtained for vertical error.

Finally, the same pattern was also reflected in horizontal error differences. Felt figures were replaced more to the left (towards the Man stimulus) than manikins,  $F(1:50) = 11.223, p < .01$ , but no reliable sex differences,  $F(1:50) = 2.300$ , n.s., or interaction of sex with task differences,  $F(1:50) = 1.422$ , n.s. were obtained.

A variable which could conceivably affect felt figure distance error or vertical error is a subject's height. Upon comple-

tion of replacement tasks, each subject was asked to report his/her height. It was found that height did not systematically relate to vertical error,  $r(50) = .05$ , n.s., distance error,  $r(50) = .05$ , n.s., or horizontal error,  $r(50) = -.01$ , n.s., in felt figure replacement.

### Discussion

The results of this study fail to indicate any unique sensitivity of females to extraneous social cues. Both males and females replaced felt figures differently from manikins. Felt figures were replaced closer together and more toward the left (toward the Man) than were manikins. Further, males and females both replaced felt figures higher on the background than the original placement, while moving manikins lower (towards the subject). While it is clear that felt figure replacement shows different response patterns from manikin replacement, no sex differences are reflected as a function of the task, and no overall sex differences occurred. An explanation of the predictive superiority of FFRT data for females remains to be determined.

### Study II

One interpretive limitation of the first study is that while manikins are more human-like than felt figures, they lack the animation necessary for generalization to actual social interactions. Since introducing animation cues, even with felt figures, has been shown to produce different response patterns (Lewit & Joy, 1967), a more critical test of the predicted sensitivity of females to social cues in the FFRT task would be to compare felt figure replacement with the replacement of actual persons. As in the first study, we would expect to find differences between felt figure and person replacement, but only for females. If males are more concerned with measurement accuracy, the object of measurement should be irrelevant.

Admittedly the replacement of actual persons is a contrived task. Yet social response sex differences should be most visible with such a task. The felt figure versus person replacement is the concern of the second study.

### Method

#### Subjects

Participants in this study were 31 male and 33 female undergraduates enrolled in lower division psychology courses at Oregon State University. All subjects volunteered their participation in exchange for additional, optional course credit.

#### Procedure

Each subject performed two tasks, and the order of the tasks was counter-balanced across subjects. Each subject performed the standard FFRT task with a MW object set. As in Study I, measures of replacement distance error, vertical error and horizontal error were calculated for each subject. Upon completion of the first task, the subject was asked to sit outside the testing room, while the scores were determined.

The second task was the replacement of two confederates, one male and one female. The procedure and measurement process used in this person replacement task was identical to that used with manikins in the first study. The only difference was that it was not necessary for the confederates to be carried: they walked to the subject, who subsequently told them where to stand.

As in Study I, the data were analyzed by means of three separate split-plot factorial analyses of variance, one for each type of error score. Each analysis of variance assessed the effects of sex (male versus female subject)  $\times$  task (felt figure versus person replacement) on FFRT error.

One of two males and one of three females served as the persons being replaced at various times during this study. The six combinations did not occur with equal frequency, and it was felt necessary to assess the impact of the different combinations on person replacement. Thus, a completely randomized analysis of variance was computed for each type of person replacement error.

#### Results

For distance error, the only reliable difference resulted in a comparison of the two tasks,  $F(1:62) = 27.678, p < .001$ .

Felt figures were replaced proportionately closer together than humans. Overall sex differences  $F(1:62) = 3.056, n.s.$ , or differences from the interaction of sex with task,  $F(1:62) = 0.038, n.s.$  were not reliable.

The same pattern was obtained for vertical error. Task differences were evident  $F(1:62) = 19.605, p < .001$ . Felt figures were replaced higher and persons lower (toward the subject). Yet reliable sex differences  $F(1:62) = 0.509, n.s.$ , or differences visible in the interaction of sex with task,  $F(1:62) = 1.555, n.s.$ , were not obtained.

Again the same pattern was obtained for horizontal error. Felt figures were replaced more to the left (toward the Man figure) and persons more to the right (toward the female confederate),  $F(1:62) = 7.619, p < .01$ . Generally male and female subjects did not differ in horizontal replacement accuracy,  $F(1:62) = 2.727, n.s.$ , and the task differences did not depend on the sex of the subject,  $F(1:62) = 0.004, n.s.$  Mean error scores for both studies are contained in Table 1.

The different combinations of male and female confederates used in person replacement did not produce an appreciable impact on distance error,  $F(5:58) = 1.047, n.s.$ , vertical error,  $F(5:58) = 0.720, n.s.$ , or horizontal error,  $F(5:58) = 0.850, n.s.$

#### Discussion

The differences obtained in this study are remarkably similar to those obtained in the first study. Both males and females replaced felt figures proportionately closer together than persons. The additional social cues associated with animation did not affect patterns of distance error scores differentially for the two sexes. Horizontal error patterns are also similar to those obtained in the first study. Felt figures were replaced more to the left (toward the Man stimulus) and persons more to the right (toward the female confederate stimulus). Finally, both groups of subjects replaced felt figures higher and persons lower (toward the subject) than the original placement. No reliable sex differences were obtained for any of the

Table 1

Means and Standard Deviations for Three Types of Error Scores  
With Felt Figure, Manikin and Person Replacement

	Study 1		Study 2	
	Felt Figure Replacement	Minikin Replacement	Felt Figure Replacement	Person Replacement
Distance Error				
Means	-10.09	- 4.58	- 7.37	- 0.86
S.D.s	9.39	10.17	10.10	5.47
Vertical Error				
Means	3.88	- 3.73	4.03	- 1.16
S.D.s	6.48	10.93	5.98	7.26
Horizontal Error				
Means	- 3.90	- 0.50	- 0.59	1.81
S.D.s	6.89	4.28	5.30	3.69

three types of error, nor did the subject's gender interact with the type of task. That is, the error patterns did not reflect unique responses for females replacing persons.

Parenthetically, it should be added that the task differences observed in Study I and Study II do not appear to be a function of the specific and perhaps arbitrary conversion factor used to create proportional units of measurement of the manikin and person replacements. The ratio of means for manikin to felt figure or for person to felt figure replacement is not constant across types of errors, or for the same type of error between the two studies. Studies are contained in Table 1. If this point remains debatable, what is indisputable is the fact that the obtained task differences did not interact with the subject's gender.

These two studies failed to support contentions that females are uniquely sensitive, or males uniquely insensitive, to social cues inherent in FFRT task performance. Another investigation of space related perception (Falbo, 1975) also failed to detect sex differences. Since

no evidence for sex differences was found on the response side of the FFRT task, it was postulated that males may integrate their perception of the social schema presented in a more superficial manner. An integration failure would result in the observed lower predictive utility of the FFRT with males. This possibility will be considered in further research.

#### References

- Brannigan, G. G., & Tolor, A. Self-parental distance, control of reinforcement and personal future time perspective. *Journal of Genetic Psychology*, 1971, 119, 151-157.
- Engelbreton, D. E. Human territorial behavior: The role of interaction distance in therapeutic interventions. *American Journal of Orthopsychiatry*, 1973, 43, 108-116.
- Esser, H. H., Chamberlain, R. N., Chapple, E. D., & Kline, N. S. Territoriality of patients on a research ward. In J. Wortis (Ed.), *Recent advances in biological psychology*. (Vol. 7) New York: Plenum, 1965.
- Estes, B. W., & Rush, D. Social schemas: A developmental study. *Journal of Psychology*, 1971, 78, 119-123.
- Falbo, T. The effects of sex and "masculinity" on person- and space-related perception. *Sex Roles*, 1975, 1, 283-295.



- Fisher, C. T. Social schemas: Response sets or perceptual meanings? *Journal of Personality and Social Psychology*, 1968, 10, 8-14.
- Fisher, R. L. Social schema of normal and disturbed school children. *Journal of Educational Psychology*, 1967, 58, 88-92.
- Gottheil, E., Corey, J., & Parades, A. Psychological and physical dimensions of personal space. *Journal of Psychology*, 1968, 69, 7-9.
- Gottheil, E., Parades, A., & Exline, R. V. Parental schemata in emotionally disturbed women. *Journal of Abnormal Psychology*, 1968, 73, 416-419.
- Gowin, E. B. *The executive and his control of men*. New York: MacMillan, 1915.
- Holahan, C., & Levinger, G. Psychological versus spatial determinants of social schema distance: a methodological note. *Journal of Abnormal Psychology*, 1971, 78, 232-236.
- Klopfers, F. J., Jackson, T. T., Wolfe, W. G., & Jeffrey, G. S. The felt figure replacement technique as a personality assessment device: validity reconsidered. *Journal of Personality Assessment*, 1977, 41, 392-395.
- Kueth, J. L. Social schemas and the reconstruction of social object displays from memory. *Journal of Abnormal and Social Psychology*, 1962, 65, 71-74.
- Kueth, J. L., & Weingartner, N. Male-female schemata of homosexual and nonhomosexual penitentiary inmates. *Journal of Personality*, 1964, 32, 23-31.
- LeBlanc, R. F., & Tolor, A. Alienation, distancing, externalizing and sensation seeking in prison inmates. *Journal of Consulting and Clinical Psychology*, 1972, 39, 514.
- Levinger, G., & Gunner, J. The interpersonal grid: I. felt and tape techniques for the measurement of social relationships. *Psychonomic Science*, 1967, 8, 173-174.
- Levinger, G., & Moreland, J. Approach-avoidance as a function of imagined shock threat and self-other similarity. *Journal of Personality and Social Psychology*, 1969, 12, 245-251.
- Lewis, D. W., & Joy, V. D. Kinetic versus social schemas in figure grouping. *Journal of Personality and Social Psychology*, 1967, 7, 63-72.
- Little, K. B. Personal space. *Journal of Experimental Social Psychology*, 1965, 1, 237-247.
- Little, K. B. Cultural variations in social schemata. *Journal of Personality and Social Psychology*, 1968, 10, 1-7.
- Little, K. B., Uehla, Z. J., & Henderson, C. Value congruence and interaction distances. *Journal of Social Psychology*, 1968, 75, 249-253.
- Magaro, P. A. The familial schemata of specific schizophrenic subgroups and normals under censure conditions. *Journal of Genetic Psychology*, 1972, 120, 135-143.
- Martin, D. G., & VanDyck, W. K. The expression of social experience in a figure placement task. *Psychonomic Science*, 1968, 12, 355-356.
- Oppenheim, A. N. *Questionnaire design and attitude measurement*. New York: Basic Books, 1966.
- Rubin, D. A comparison of the mother and father schemata of achievers and underachievers: A study of primary grades and achievement in arithmetic. *Journal of Social Psychology*, 1969, 78, 295-296.
- Stogdill, R. M. Personal factors associated with leadership: A survey of literature. *Journal of Psychology*, 1948, 25, 35-71.
- Tolor, A. Fallacy of schizophrenic deficit in the interpersonal sphere. *Journal of Consulting and Clinical Psychology*, 1970, 35, 278-282. (a)
- Tolor, A. Popularity and psychological distance. *Personality: An International Journal*, 1970, 1, 65-83. (b)
- Tolor, A. Introversion-extraversion and topological representations of self and others. *Journal of Clinical Psychology*, 1975, 31, 662-663.
- Tolor, A., Cramer, M., D-Amico, D., & O'Marra, M. M. The effects of self-concept, trust, and imagined positive or negative self-disclosures on psychological space. *Journal of Psychology*, 1975, 89, 9-24.
- Tolor, A., & Orange, S. An attempt to measure psychological distance in advantaged or disadvantaged children. *Child Development*, 1969, 40, 407-420.
- Tolor, A., & Salafia, W. R. The social schemata technique as a projective device. *Psychological Reports*, 1971, 28, 423-429.
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## The Utility of Two Wechsler Adult Intelligence Scale Short Forms with Prisoners

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*Summary:* Previous research has suggested that the Pauker (1963) and Satz and Mogul (1962) short forms of the WAIS have been efficacious in estimating the standard form. While there is a growing need in correctional settings for quicker evaluation procedures, the lack of WAIS short form research with prisoners prohibits their use with such populations. Hence, this study employed 126 young adult male inmates to test the comparability of the above cited short forms and the standard WAIS across a variety of evaluative criteria. The results generally suggested the superiority of the Pauker (1963) form in estimating the standard WAIS. However, because the current study employed only black and white young male offenders it is suggested that the current findings not be generalized to other age groups, races, or women inmates until these findings are cross-validated on such samples.

With the growing demands for psychological services, mental health professionals in a variety of settings are increasingly becoming aware of the need for incrementing their efficiency in direct services. This state of affairs is particularly true in most correctional institutions since such settings often have relatively few psychologists to serve their large inmate populations. At the time of conceptualizing this study, for example, the Petersburg Federal Correctional Institution's psychology service staff consisted of two full-time clinical psychologists, one full-time clinical psychologist trainee, one part-time (10 hours/week) clinical psychologist consultant, and one part-time (10 hours, week) practicum student to serve the evaluation/treatment needs of over 700 inmates. Further, through the authors' contacts with other federal and state institutions it appeared that demands for correctional psychologists' time were increasing in various prison facilities. Consequently, incrementing efficiency in the provision of direct evaluative and/or treatment services to individual inmates seemed of

paramount importance.

One means of increasing direct service efficiency is the shortening of the psychological evaluation process (Finch, Thornton, & Montgomery, 1974). To reduce evaluation time various authors have suggested the use of shortened forms of individually administered tests such as the Wechsler Adult Intelligence Scale (WAIS). While various selected subtest (Doppelt, 1956; Karras, 1963; Maxwell, 1957) and selected item (Pauker, 1963; Satz & Mogel, 1962) abbreviated WAIS forms have been proposed, research (Edinger & Norwood, 1975; Finch, Thornton, & Montgomery, 1974) supports the efficacy of only the selected item forms. No studies, however, have attempted to investigate the utility of these selected item forms with prison populations and, hence, it is questionable whether either of the selected item forms are efficacious for inmate groups. Consequently, the purpose of this study was to investigate the comparability of the above cited selected item short forms and the standard WAIS within an inmate population.

To evaluate these short forms several criteria were employed. First, the three criteria proposed by Resnick and Entin (1971) were adopted so as to determine the comparability of the abbreviated and

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standard form IQ scores. For a short form to be considered comparable to the standard WAIS these criteria state that: (a) correlations between short and standard form IQ scores should be significant, (b) *t* tests between the mean short and standard form IQ scores should be non-significant, and (c) the percentage of IQ diagnostic classification change should not be so great as to preclude the effective use of the short form.

In addition to these criteria, it was decided to investigate the comparability of these two short forms and the standard WAIS in terms of subtest profile configurations. Since subtest "profile analysis" (Zimmerman & Woo-Sam, 1973) is often employed in clinical prediction it seemed that short and standard WAIS profiles should be comparable. Further, since various authors (Holmes, Armstrong, Johnson, & Ries, 1966; Merkle, 1968; Watkins & Kinsie, 1970) have questioned the comparability of short and standard form profiles it seemed essential to evaluate their comparability. Hence, the authors adopted the criterion rule that the correlation between a subject's short and standard form subtest scores should be significant and of such a magnitude as to allow comparable clinical predictions from short and standard form subtest scores.

A further concern of the authors was whether the short and standard forms are similar in terms of their factor structures. Seemingly if a specific WAIS short form is an accurate approximation of the standard WAIS, then clusters of intellectual abilities measured by short and standard forms should be similar. Therefore, it seemed of theoretical importance to evaluate the comparability of short and standard form factor structures. Thus, the authors adopted the evaluative criterion rule that the number of factors and the subtest loadings on these factors should be similar for short and standard WAIS forms so that these forms may be comparable in reference to the manner in which they measure intelligence.

A final area concerning the authors was that of the comparability of the short and standard forms in the prediction of external criteria. Specifically, it seemed

that if a particular short form is a reliable estimate of the standard WAIS then that form should predict external criteria at a level equal to that of the standard WAIS. Consequently, the comparability of the short and standard WAIS forms in predicting external criteria was selected as a final means of evaluating the two short forms. With these various evaluative criteria delineated, the authors effected the following study to determine the relative efficacy of the Satz and Mogel (1962) and Pauker (1963) WAIS short forms with an inmate population.

### *Method*

#### *Subjects*

The subjects selected for this study were 126 male inmates of the Petersburg Federal Correctional Institution. These 126 subjects represented all inmates who had been administered the entire WAIS and who had this test data as well as Beta IQ and Stanford Achievement Test (SAT) Scores available in the institution's psychology service's files. Sixty-three of these subjects were Black and 63 were White. The mean age of the Blacks was 21.17 years (Range = 17 to 26 years); the mean age of the Whites was 22.14 years (Range = 18 to 26 years). The mean Verbal, Performance and Full Scale IQs of the Blacks were 92.95, 94.27, and 93.11 respectively. The mean Verbal Performance and Full Scale IQs of the Whites respectively were 103.89, 104.79, and 104.54. Of the 126 subjects 55 (43.65%) had been incarcerated on charges of robbery, rape, murder, or other crimes against persons, 32 (25.39%) for burglary, larceny, theft, or other property crimes, 24 (19.04%) for drug-related offenses, and the remaining 15 (11.98%) for other miscellaneous offenses.

#### *Procedure*

To obtain a sample of subjects, the psychology files of FCI, Petersburg were reviewed and all files containing a WAIS protocol, SAT scores and Beta IQ scores, all of which had been obtained upon the inmate's admission to the prison, were selected. Following this procedure files not containing WAIS subtest scores for all 11 subtests were eliminated. With these

omissions 126 files remained, 63 of which were Black inmates' files and 63 of which were the files of White inmates.

Subsequent to this selection process the 11 subtest scaled scores, Verbal IQ, Performance IQ, Full-Scale IQ, Beta IQ, and SAT scores were obtained for each subject. Also each WAIS protocol was scored separately using both Pauker's (1963) and Satz and Mogel's (1962) selected items. From these scorings estimates of each subtest scaled score as well as Verbal, Performance and Full-Scale IQ scores for each of the two short forms were obtained. Subsequently, a series of statistics, computed within each racial group separately, were used to evaluate the short forms in terms of the above described criteria. Specifically, these statistics involved the following four series of comparisons:

1. *Resnick and Entin (1971) Criteria:* Included among these comparisons were the calculation of Pearson Product-Moment correlations between short and standard form IQs, the calculation of  $t$  values between short and standard form IQ means, and the determination of the percentage of each sample which was diagnostically misclassified by each short form full-scale IQ.

2. *Profile Comparisons:* Included in these comparisons were the calculation of Pearson Product-Moment correlations between short and standard forms' subtest scaled scores for each subject as well as the determination of the percentage of subjects from each racial group having nonsignificant short-standard form subtest correlations for each of the two short forms.

3. *Comparisons of Factor Structures:* Included in this evaluation were the determination of the comparability of the number of factors produced in factor analyzing the short and standard forms as well as the comparability of the subtest loadings on respective factors.

4. *Prediction of External Criteria:* These analyses were effected to determine the comparability of Pearson Product-Moment correlations produced in correlating short and standard forms with Beta IQ and Standard Achievement Test scores.

## Results

### *Resnick and Entin (1971) Criteria*

The results of both the Pearson correlations between short and standard form IQs as well as the  $t$  tests between short and standard form means are displayed in Table 1. As shown, the correlations within each racial group were very respectable ( $p < .001$ ) and only minor nonsignificant differences were obtained between the Pauker (1963) and Satz and Mogel (1962) forms in terms of these comparisons. Further, practically no differences in the magnitude of these correlations were obtained for the Black and White subjects.

In contrast the results of the  $t$  tests suggested the superiority of the Pauker (1963) over the Satz and Mogel (1962) form in estimating the standard WAIS. Within the Black sample the Satz and Mogel verbal, performance and full-scale IQs all were significantly different from the standard WAIS scores. The Pauker (1963) form, however, produced Verbal, Performance and Full-Scale IQs which were not significantly different from the respective standard form scores. While only the  $t$  test between the Satz and Mogel (1962) and standard form full-scale IQ means reached significance within the White group, a comparison of the mean IQ differences listed in Table 1 shows that the Pauker (1963) form provided a closer estimate of standard form IQs than did the Satz and Mogel (1962) form. Thus, the Pauker (1963) form seemed the better of the two in estimating standard form IQs.

In terms of the number of subjects diagnostically misclassified the favorability of one form over the other varied across the races. For the Blacks the Pauker (1963) form was superior by virtue of its misclassifying only 6 (9.5%) of the 63 subjects as opposed to the 14 (22.2%) misclassified by the Satz and Mogel (1962) form. In contrast the Satz and Mogel (1962) form was slightly superior for the Whites in that it misclassified 11 (17.5%) of the 63 Whites as opposed to the 12 (19.0%) misclassified by the Pauker (1963) form. Hence, it appears that the achievement of the fewest diagnostic misclassification



Table 1

Abbreviated Form Means and Standard Deviations and Mean Differences, Correlations, and *t* Values Between the Standard WAIS and the Abbreviated Forms

	MEAN	Standard Deviation	Mean Difference Standard-Abbreviated Form MEANS	<i>r</i> with Standard Form	<i>t</i> with Standard Form
<b>Blacks</b>					
Pauker Verbal IQ	92.48	13.7	.47	.98***	1.36
Pauker Performance IQ	93.82	12.6	.45	.92***	0.70
Pauker Full Scale IQ	92.60	12.6	.51	.98***	1.56
Satz & Mogel Verbal IQ	93.79	13.3	-.84	.98***	2.45**
Satz & Mogel Performance IQ	96.98	13.7	-2.71	.92***	4.00***
Satz & Mogel Full Scale IQ	94.89	12.8	-1.78	.97***	4.47***
<b>Whites</b>					
Pauker Verbal IQ	103.95	15.2	-.06	.98***	0.18
Pauker Performance IQ	103.79	13.7	1.00	.92***	1.44
Pauker Full Scale IQ	104.16	13.8	.38	.96***	1.77
Satz & Mogel Verbal IQ	104.56	15.1	-.67	.98***	1.77
Satz & Mogel Performance IQ	106.19	13.5	-1.40	.89***	1.73
Satz & Mogel Full Scale IQ	105.54	13.5	-1.00	.97***	2.37*

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

tions was achieved by different short forms with the two samples.

#### Profile Comparisons

The correlational comparisons between standard and short form scaled scores resulted in slightly, albeit non-significantly ( $p > .05$ ), higher correlations for the Pauker (1963) than for the Satz and Mogel (1962) form across both

racial groups. For the Blacks the mean Pauker-standard form scaled score correlation was .78 (Range = .24 to .99); the mean Satz and Mogel-standard form correlation was .76 (Range = .36 to .97). Among the White subjects the mean Pauker-standard form scale score correlation was .82 (Range = .28 to 1.00); the mean Satz and Mogel-Standard form correlation was .80 (Range = -.02 to 1.00).



Table 2

Factor Structure of the Standard and Abbreviated Forms of the WAIS

Subtest	Standard WAIS			Paucker			Satz & Mogel			
	I	II	III	I	II	III	I	II	III	IV
<b>Blacks</b>										
Information	.73*	.38		.59	.56		.60*	.04	-.59	
Comprehension	.74*	.39		.77*	.32		.72*	.03	-.36	
Arithmetic	.78*	.13		.73*	.21		.69*	.04	-.13	
Similarities	.61*	.56		.62*	.47		.55	.23	-.49	
Digit Span	.71*	.04		.80*	-.10		.82*	.22	.18	
Vocabulary	.75*	.40		.70*	.49		.54	.11	-.62*	
Digit Symbol	.27	.57		.31	.54		.32	.47	-.35	
Picture Completion	.37	.76*		.27	.75*		.05	.89*	-.27	
Block Design	.17	.82*		.18	.60*		.11	.94*	-.04	
Picture Arrangement	.56	.35		.30	.53		.15	.09	-.61*	
Object Assembly	.13	.78*		-.08	.82*		.10	.31	-.76*	
Eigen Value	5.66	1.17		5.04	1.33		4.43	1.65	1.11	
% Total Variance	51.5	10.7		45.9	12.1		40.3	15.0	10.1	
<b>Whites</b>										
Information	.82*	.23	.32	.64*	-.12	.53	.44	.29	-.70*	.04
Comprehension	.88*	.03	.11	.76*	.18	.37	.04	.36	-.80*	.28
Arithmetic	.52	.32	.60*	.33	-.18	.70*	.75*	.12	-.36	.05
Similarities	.79*	.23	.21	.68*	-.03	.39	.39	-.04	-.68*	-.40
Digit Span	.18	-.01	.85*	.09	.09	.73*	.67*	.05	-.17	.19
Vocabulary	.87*	.15	.27	.61*	-.01	.58	.28	.09	-.87*	-.17
Digit Symbol	.29	.47	.54	.13	-.36	.72*	.76*	.17	-.18	-.30
Picture Completion	.49	.64*	-.21	.74*	-.47	.10	-.16	.74*	-.27	-.28
Block Design	.16	.84*	.23	.20	-.69*	.37	.45	.69*	.11	-.15
Picture Arrangement	.40	.57	.19	.71*	-.22	.06	.20	.70*	-.27	.08
Object Assembly	-.05	.79*	.06	.02	-.78*	-.02	-.04	.15	-.02	-.88*
Eigen Value	5.36	1.52	1.02	4.78	1.33	1.12	4.44	1.40	1.17	1.06
% Total Variance	48.8	13.9	9.3	43.4	12.1	10.2	40.3	12.7	10.6	9.7

\* Variables defining each factor using a loading of .60 as the cut-off point.

Table 3  
Pearson Product-Moment Correlations Between the  
Standard Form and the Abbreviated Form Factors

Factors	Pauker			Satz & Mogel			
	I	II	III	I	II	III	IV
Blacks Standard Form							
I	.93**	-.67*		.87**	-.75**	-.15	
II	-.80**	.88**		-.82**	.73*	.18	
Whites Standard Form							
I	.82**	.72*	.21	-.20	-.26	-.92**	.56
II	-.30	-.96**	-.62*	-.22	.49	.72**	-.69*
III	-.53	.38	.87**	.88**	-.35	.08	.39

\*  $p < .05$ .

\*\*  $p < .01$ .

Coupled with these findings, it was discovered that each sample had a greater percentage of nonsignificant Satz and Mogel-standard form scaled score correlations than they had of Pauker-standard form correlations. Specifically, 19% of the blacks and 11.1% of the whites had nonsignificant Satz and Mogel-standard scaled score correlations. These figures were slightly higher than the 12.7% of the blacks and the 7.8% of the whites having nonsignificant Pauker-standard form scaled score correlations. Consequently, the Pauker (1963) form seemed slightly superior to the Satz and Mogel (1962) form in approximating the standard form's profile configurations.

#### *Comparisons of Factor Structures*

Principal components factor analyses with Kaiser's (1958) varimax solution were applied to short and standard forms subtest scaled scores. The results of these analyses are reported in Table 2. As shown, the Pauker (1963) form was more similar to the standard WAIS than was the Satz and Mogel (1962) form in terms of the

number of factors produced. In fact, for both the Black and White samples the factor analysis of the Satz and Mogel form resulted in one more significant (i.e., having an Eigen  $\geq 1.00$ ) factor than did the factoring of the standard WAIS. In contrast, the factor analysis of the Pauker (1963) form resulted in the exact number of factors produced by factoring the standard form.

To determine the comparability of respective factors the factor loadings of standard and both abbreviated forms were intercorrelated using Pearson's  $r$ . These correlations are reported in Table 3. The correlations between the respective factors of the Pauker (1963) and standard forms generally were positive and high with the single exception of the factor II correlation among the Whites. The correlation between respective factors of the Satz and Mogel and standard WAIS also were generally positive but of a lesser magnitude than those between the Pauker and standard forms. In fact, for the White inmates none of the Satz and Mogel-standard form respective factor correla-

Table 4

Pearson Product-Moment Correlations of Standard and Abbreviated Form Verbal, Performance and Full Scale IQ with Beta IQ and SAT Scores

	Blacks		Whites	
	Beta IQ	Stanford Achievement	Beta IQ	Stanford Achievement
Standard Form Verbal IQ	.56	.84	.49	.83
Standard Form Performance IQ	.71	.64	.75	.57
Standard Form Full-Scale IQ	.68	.83	.67	.82
Pauker Verbal IQ	.55	.83	.48	.84
Pauker Performance IQ	.70	.58	.66	.58
Pauker Full-Scale IQ	.68	.81	.62	.82
Satz & Mogel Verbal IQ	.55	.83	.46	.82
Satz & Mogel Performance IQ	.62	.60	.70	.54
Satz & Mogel Full-Scale IQ	.65	.82	.65	.81

Note: ALL correlations are significant at the  $p < .001$  level.

tions were significant. Further, the only correlational comparison showing a greater *positive* relationship between respective factors of the standard and Satz and Mogel (1962) form than between respective factors of the Pauker (1963) and standard forms was that for factor II within the White sample. Thus, for these samples the Pauker (1963) form seemed the closer approximation to the standard form both in terms of the number of factors produced and in terms of the structure of respective factors.

#### Prediction of External Criteria

Table 4 displays the Pearson Product-Moment correlations computed between each of the three WAIS forms IQs and the external criteria of Beta IQ and Stanford Achievement Test scores. For the Black subjects the Pauker-Beta IQ score correlations generally resembled the standard form-Beta IQ score correlations more so than did those between the Satz and Mogel and Beta IQ scores. The reverse of this was true for the whites. For this group the Beta IQ-Satz and Mogel

correlations were slightly more similar to the standard form-Beta IQ correlations than were those between the Pauker form and Beta IQs.

In predicting SAT scores again the comparability of the short and standard forms varied across the two races. For the Blacks the Satz and Mogel-Stanford Achievement Test correlations were slightly closer to the standard WAIS-Stanford Achievement Test correlations than were the Pauker-Stanford Achievement Test correlations. Among the Whites the reverse of these findings was true. These results suggest that the comparability of the short and standard forms in terms of predicting these external criteria varies both in terms of the criterion predicted and in terms of the race of the subject in question. However, it should be noted that the above cited differences between the two short forms were only slight and that both forms' correlations with the external criteria were reasonably close to those between these criteria and the standard form. Thus, these findings do not conclusively favor

use of one form over the other with this population.

### *Discussion*

The present study was effected to investigate the utility of two WAIS short forms with an inmate population. Specifically this study attempted to determine how comparable the Satz and Mogel (1962) and the Pauker (1963) forms are to the standard WAIS across a number of evaluative criteria. The findings of this study are presented in summary form in Table 5. Although a few of the comparisons slightly favored the Satz and Mogel (1962) form, the majority of the comparisons suggested the superiority of the Pauker (1963) form with this population.

Considering the Resnick and Entin (1971) criteria, for example, the Pauker form seemed generally superior to the Satz and Mogel (1962) form. In fact, for the Blacks, the Pauker (1963) form was as good as or better than the Satz and Mogel (1962) form in terms of all three criteria. Similarly, for the Whites the Pauker (1963) form was favored by virtue of its equaling or bettering the Satz and Mogel (1962) form on five out of seven comparisons employed in effecting the Resnick and Entin (1971) criteria. Further, even those two comparisons favoring the Satz and Mogel (1962) form involved such slight differences between this and the Pauker (1963) form that these differences were statistically unreliable. Thus, based on these criteria, it seems that the Pauker (1963) form is the more efficacious with both Black and White inmates.

Similar to these findings, the results of both the profile and factor analytic comparisons favored the Pauker (1963) form. While both forms correlated at respectable levels with the standard form in terms of profile configurations, the Pauker (1963) form estimated the standard form at a slightly higher level for both races. Further, within both racial groups, the factor structure comparisons revealed the Pauker (1963) form to be the more efficacious in estimating both the number of standard form factors and the subtest loadings on these factors. Hence, these

findings suggest that, for this population, the Pauker (1963) form allows for clinical profile interpretations and measures intellectual abilities in manners more similar to the standard WAIS than does the Satz and Mogel (1962) form.

In regard to the prediction of external criteria it appears that the comparability of the short forms and standard WAIS vary both as a function of the criterion predicted and as a function of the prisoner's race. For the Blacks, the prediction of Beta IQ scores seemed slightly better achieved by using the Pauker (1963) form while the prediction of SAT scores was better accomplished by using the Satz and Mogel (1962) form. In contrast, for the Whites the prediction of Beta IQs was better achieved using the Satz and Mogel (1962) form while the prediction of SAT scores was better accomplished by using the Pauker (1963) form.

In summarizing these findings it seems the Pauker (1963) form seemed more comparable to the standard WAIS than did the Satz and Mogel (1962) form. As shown by Table 5 the Pauker (1963) form equaled or bettered the Satz and Mogel (1962) form in estimating the standard form on 16 out of 18 evaluative comparisons employed with the Black subjects. Similarly, for the Whites the Pauker (1963) form was equal or superior to the Satz and Mogel (1962) form on 14 out of 19 comparisons. Further, for both races, all comparisons favoring the Satz and Mogel (1962) over the Pauker (1963) entailed only slight, nonsignificant differences between these two forms. In contrast, many of the comparisons which favored the Pauker (1963) form suggested marked differences between this form and the Satz and Mogel (1962) form in approximating the standard WAIS. Hence, the correctional clinician, desirous of employing a WAIS short form with a comparable population, apparently should choose the Pauker (1963) over the Satz and Mogel (1962) form so as to achieve results which, across various criteria, are comparable to the standard WAIS.

A word of caution regarding the generalizability of these findings, however, seems warranted. As discussed in the



Table 5

Comparison of the Two Abbreviated Forms Across the Multiple Criteria Employed

Criterion	Blacks		Whites	
	Pauker	Satz & Mogel	Pauker	Satz & Mogel
Short Form—Standard Form Correlations				
Verbal IQ	Tie	Tie	Tie	Tie
Performance IQ	Tie	Tie	+	
Full-Scale IQ	+			+
Difference Between Short and Standard Form Means				
Verbal IQ	+		+	
Performance IQ	+		+	
Full-Scale IQ	+		+	
% of Diagnostic Misclassifications	+			+
Profile Comparisons				
Subtest Correlations	+		+	
% Nonsignificant Correlations	+		+	
Factor Structure				
Number of Factors	+		+	
Correlation Between Respective Factors				
I	+		+	
II	+			
III	N/A	N/A	+	+
Correlations with Beta IQ				
Verbal IQ—Beta IQ	Tie	Tie	+	
Performance IQ—Beta IQ	+			+
Full-Scale IQ—Beta IQ	+			+
Correlations with Stanford Achievement Test (SAT)				
Verbal IQ—SAT	Tie	Tie	Tie	Tie
Performance IQ—SAT		+	+	
Full-Scale IQ—SAT		+	+	

methods section, this study employed only Black and White young adult male inmates. Because of the specifics of this group, it is questionable whether these findings are generalizable to other age groups, other races, or women prisoners. Thus, the correctional psychologist is warned against generalizing these findings to other prisoner types until they are cross-validated on more varied prison samples.

#### References

- Doppelt, J. E. Estimating the full scale score of the Wechsler Adult Intelligence Scale from scores on four subtests. *Journal of Consulting Psychology*, 1956, 20, 63-66.
- Edinger, J. E., & Norwood, P. E. Relative efficacy of Wechsler Adult Intelligence Scale short forms with outpatients. *Journal of Consulting and Clinical Psychology*, 1975, 43, 591.
- Finch, A. J., Thornton, L. S., & Montgomery, L. E. WAIS short-forms with hospitalized psychiatric patients. *Journal of Consulting and Clinical Psychology*, 1974, 42, 469.
- Holmes, D. S., Armstrong, H. E., Jr., Johnson, M. H., & Ries, H. A. Validity and clinical utility of the Satz and Mogel abbreviated form of the WAIS. *Psychological Reports*, 1966, 18, 992-994.
- Kaiser, H. F. The varimax criterion for analytic rotation in factor analysis. *Psychometrika*, 1958, 23, 187-200.
- Karras, A. Predicting full scale WAIS IQs from WAIS subtests for a psychiatric population. *Journal of Clinical Psychology*, 1963, 19, 100.
- Maxwell, E. Validities of abbreviated WAIS scales. *Journal of Consulting Psychology*, 1957, 21, 121-126.
- Merkle, S. The effect on subtest differences of abbreviating the WAIS. *Journal of Clinical Psychology*, 1968, 24, 196-197.
- Pauker, J. D. A split-half abbreviation of the WAIS. *Journal of Clinical Psychology*, 1963, 19, 98-100.
- Resnick, R. D., & Entin, A. D. Is an abbreviated form of the WISC valid for Afro-American children? *Journal of Consulting and Clinical Psychology*, 1971, 36, 97-99.
- Satz, P., & Mogel, S. An abbreviation of the WAIS for clinical use. *Journal of Clinical Psychology*, 1962, 18, 77-79.
- Watkins, J. F., & Kinsie, W. B. Exaggerated scatter and less reliable profiles produced by the Satz-Mogel abbreviation of the WAIS. *Journal of Clinical Psychology*, 1970, 26, 343-345.
- Zimmerman, I. L., & Woo-Sam, J. M. *Clinical interpretation of the Wechsler Adult Intelligence Scale*. New York: Grune & Stratton, 1973.

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## A Theoretical Explanation of the Dissociative Reaction and a Confirmatory Case Presentation

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*Summary:* A theoretical explanation for the classical distinction between the conversion and dissociative hysterics was advanced based on previous research with cases of conversion hysteria and multiple personality. The principles were illustrated and extended using Rorschach and Hand Test data from a fugue state.

The theory of Structural Analysis (Wagner, 1971) hypothesizes a basic psychological distinction between the conversion and dissociative hysterics and also specifies the kind of differential projective patterning which can be expected from these two syndromes, particularly on the Rorschach. For Structural Analysis the hysterics in general have neurotic facades typified by pseudo-socialized attitudes and action tendencies vulnerable to sexual and aggressive impulses. However, while the Facade Selves may show certain similarities, it is postulated that there is a marked difference between the Introspective Selves of conversion and dissociative types. Facade Self refers to overt interpersonal and environmental behaviors while the Introspective Self designates covert inner psychological processes such as imagination, rumination, self-evaluation, and subjectively formulated life roles. Introspective Self processes may or may not be expressed through the Facade Self, depending upon the nature of and articulation between these two postulated psychological functions.

Simply put, the conversion hysteric has little in the way of Introspective Self and, therefore, unwanted impulses must be somatized since they have nowhere else to go: imagination, fantasy, and rumination are not available to act as a buffer. On the other hand, the dissociative hysteric is held to possess an Introspective Self which is extensive and conflicted so that powerful internal life roles intermittently gain release via a weakened Facade Self and, so to speak, "take over" the personality. Therefore, while hysterics in general tend to have

problems with aggression and sex and can often be characterized as immature, dependent, exhibitionistic and passive in their surface behaviors, there is a profound and fundamental distinction between the conversion and dissociative reactions in terms of what lies *under* the facade. The conversion hysteric neutralizes undesirable impulses through physical incapacity precisely because there are few imaginal resources available to deal with sex and aggression. Conversion hysterics are what they appear to be to the unbiased eye and the great mistake in trying to relate to such individuals is to be misled by their manipulative and often seductive behavior into inferring unplumbed depths of feeling and fantasy. With dissociative reactions the opposite is true. They may seem superficial, flat, or flighty but behind the hysteroid veneer lurk abundant action potentials which are so turbulent and unacceptable that, in order for these processes to manifest themselves in behavior, they must break into the Facade Self with an impact akin to the intrusion of an alien presence.

These conceptualizations can be operationalized by stipulating expected configurations among projective techniques. The simplest and most direct approach is to counterpose the Hand Test against the Rorschach since the former supposedly measures the Facade Self while movement responses (*M*, *FM*, *m*) are taken to represent various Introspective Self processes (Wagner, 1976). It has been demonstrated that classical conversion hysterics, as expected, do indeed show few movement responses on the Rorschach coupled with typically "hysterical" Hand Tests (Wagner, 1973).

Furthermore, it has also been shown, in a study of three cases of multiple personalities, that the Rorschachs of these subjects "...were characterized by a large number of movement responses" (Wagner & Heise, 1974, p. 329). Piotrowski, commenting on these findings together with another case of multiple personality reported by Bowers and Brecher (1955), observes that "...records of these patients contain at least several *M* and that the types of *M* differ a good deal from one another" (1977, p. 213). Thus, there appears to be some experimental evidence that a substantive theoretical explanation for the classical distinction between the conversion and dissociative reactions can be provided by assuming that the former are relatively lacking in imaginal resources while the latter are overloaded with these processes (as represented by movement responses on the Rorschach). In order to extend this hypothesis beyond the multiple personality to dissociative reactions in general, test protocols of a bona fide fugue state will be presented and analyzed. Tentative confirmation would be established if the subject showed (a) a hysterical Hand Test, (b) a large number of Rorschach movement responses, and (c) a variety of Rorschach *M*. While it is realized that a single case study cannot be considered definitive it might at least lend credence to the theory and hopefully stimulate further research along these lines. Certainly, if it can be proven that individuals showing dissociative reactions are much more complex internally than those showing conversion reactions, important practical repercussions would ensue, particularly for the conduct of psychotherapy.

### *Case History*

The client, RS, is a 20-year-old female who received a high school education but has no history of gainful employment, mainly because she became pregnant out of wedlock, subsequently marrying the father of the child, an 18-year-old high school senior. Financial pressures forced the couple to reside with the husband's parents which proved an unsatisfactory arrangement. The mother-in-law com-

plained that RS was careless and inefficient in raising the baby and performing household chores. RS was even accused of trying to smother the infant. Quarrels and violent scenes ensued, coming to a head when, after a particularly angry confrontation, RS rushed blindly from the house, did not return, and was reported missing. She was eventually located by the police wandering about in a far away park in a semi-daze, inquiring after her dead aunt. She was examined by a psychiatrist who described the subject as being of at least average intelligence and free of organic brain pathology. At that time the diagnosis of a fugue state was made.<sup>1</sup>

RS was tested shortly after the psychiatric consultation. She discussed her problems with detachment yet seemed bemused and emotionally drawn to the projective stimuli. After brief psychiatric treatment she soon regained her normal functioning and subsequently dropped out of sight.

### *Analysis and Discussion of Test Data*

Wagner (1973) lists nine "signs" on the Hand Test, any six of which supposedly furnish presumptive evidence of hysteria. RS does indeed show the required six signs (See Appendix A): MAL from 2 to 5; ENV less than two-thirds INT; FEAR; DEP; PAS; (IM). She also comes close to giving two other signs: R from 9 to 12; and EXH. It is interesting to observe that serious problems with aggression (also noted on the Rorschach) are blatantly manifested on the Hand Test. Beyond a doubt RS is an extremely neurotic young woman and, with an ACT score of only one, her mother-in-law's criticisms were probably well founded.

An analysis of the Rorschach (See Appendix A) produced by RS reveals much of the same patterning observed previously in multiple personalities. The

<sup>1</sup> It is important to point out that the term "fugue state" is used here in the classical sense to denote the intrusion into consciousness of an alien personality capable of operating independently over time and producing a reaction of flight. Short-lived aggressive outbursts and/or momentary lapses of consciousness although sometimes referred to as "dissociative" would not be included in this definition.



absolute number of movement responses was quite high ( $M=4$ ,  $FM=13$ ) despite a reasonably short (albeit complex) protocol. The diverse  $M$ s hypothesized by Piotrowski were apparent in terms of passivity ("Sitting at a table, hunched"), exhibitionism ("Looks like someone trying to stand on their head"), and sadomasochism ("some kind of person carrying off two people...dragging them along"). There were some differences among the  $FM$  too but the bulk of the animal movement responses were aggressive (either attacking, fighting, or carrying something off) and undoubtedly help account for her propensity to become belligerent and argumentative. As in the three multiple personalities previously cited the color content perceived by RS was also inconsistent and oppositional: two were negative ("blood," "insides of someone") while the remainder were oral, passive, dependent, feminine, or neutral ("slab of meat," "red bow," "flowers," "leaf," "green worms"). The protocol is rife with indications of deep, unsatisfied dependency needs and, etiologically, RS appears to be reacting with intense resentment to an affectionally deprived childhood. But, from a structural point of view, the critical element seems to be the tremendous imbalance of movement responses which could be expected to separate and recombine into separate "personalities" under suitable situational pressures, possibly those associated with

a dangerous influx of aggression.

The protocols seem to satisfy the stipulated requirements for a dissociative reaction, corroborating the thesis outlined at the beginning of this paper. It should also be of interest to readers of this journal to note how trenchantly the dynamics of this syndrome were revealed through the projective testing of RS. The author does not wish to deprecate objective personality testing but it is difficult to envision how answers to true or false questions could have furnished such insights into the nature of the dissociative reaction.

#### References

- Bowers, M. K., & Brecher, S. The emergence of multiple personalities in the course of hypnotic investigation. *Journal of Clinical and Experimental Hypnosis*, 1955, 3, 188-189
- Piotrowski, Z. A. The movement responses. In: M. Rickers-Ovsiankina (Ed.), *Rorschach psychology*. Huntington, N. Y.: Robert E. Krieger, 1977, 189-227
- Wagner, E. E. Structural analysis: A theory of personality based on projective techniques. *Journal of Personality Assessment*, 1971, 35, 422-435.
- Wagner, E. E. Diagnosis of conversion hysteria: An interpretation based on projective techniques. *Journal of Personality Assessment*, 1973, 37, 5-15.
- Wagner, E. E. Personality dimensions measured by projective techniques: a formulation based on Structural Analysis. *Perceptual and Motor Skills*, 1976, 43, 247-253.
- Wagner, E. E., & Heise, M. A comparison of Rorschach records of three multiple personalities. *Journal of Personality Assessment*, 1974, 38, 308-331.

#### Appendix A: The Rorschach and Hand Test Protocols

##### Rorschach: RS

I. 20" Oh my! Looks like . . . two on the side look like elephants, middle looks like two elephants are holding on to a spider or scorpion because of the antennae. (anything else?) Don't think so. (Q) Yeah all of it. (Q) Yes, spider is alive.	W { FM A FM A
II. 12" Oh my! Looks like . . . puppies fighting, red here is blood. Don't know what this would be, just looks like puppies fighting, red would be blood. Guess that's all. See so many different things. Seems funny taking one. (Q) Over a bone, here in the middle, trying to get it, each one wants it. That's all.	W { FM A P CF blood F± food
III. 40" (smiles) Oh . . . don't even know . . . I'm thinking . . . Looks like, yeah . . . two people . . . don't know what they're doing. Sitting at a table, hunched. Don't know what these red spots look	W { M H P F obj D CF food

- like . . . meat hanging in a freezer, big slab of meat. Don't know what other red in the middle would be; supposed to be different things in the middle? (*what-ever you see*) Looks like a red bow in a way.
- IV. 10" Oh my! looks like someone trying to stand on their head . . . real big feet. Clown or something with a tail in back here and enormous feet. That's all.
- V. 9" Some kind of an insect. Fly or . . . something like that . . . mosquito. (*Q*) Looks like it's flying. Then again, looks like . . . some kind of person carry-off two people . . . dragging them along. (*Q*) (*outlines percept. Fairly well seen*)
- VI. 8" Well, looks like a dead giraffe . . . maybe to skin it . . . All spread out. Or looks like a rug you would lay in the living room. (*Q*) That's all I see.
- VII. 20" Getting harder, oh my! Looks like a . . . dogs again . . . they're standing. Ears sticking up in the air, paws sticking out. Like a snow man. (*Q*) You built dogs instead. (*Q*) Looks like snow. (*Q*) Yeah, shading.
- VIII. 27" Oh my! These two things look like lizards . . . don't know what they're . . . some other kind of insect at the top, trying to get it . . . it's trying to get away. (*Q*) Don't know. These look like flowers, don't know what kind. (*Q*) Color.
- IX. 26" Keep getting harder. Oh my . . . Looks something like the insides of someone, general impression. Lungs, ribs, lower part of body . . . tube that runs from throat to stomach . . . these look like bones. (*Q*) Yes, colors in a way . . . pink, green, orangy. (*Q*) Whole thing, general impression.
- X. 8" Must be bug day! Bugs and insects. Look like insects, every one of them. (*Q*) Each one trying to carry something off. (*Q*) Spider carrying off a green leaf. Two smaller ones at top - a twig or something that they're eating. Looks like (*grimaces*) two real big insects got something . . . butterfly or mosquito, both carrying it off. Looks like they all got something. Two green worms, don't know what they have. Two insects trying to grab hold of two bigger insects. That's all. (*Q*) Yes, all moving, all alive. (*Q*) Color for the leaf and for the worm.

D FC app

W M H

W FM A

W { M H O  
M H

W F A

W F obj P

W F<sub>C</sub> snow  
(A)D { FM A  
FM± A

D CF fl

W CF anat

W	{	FM	A	P
		CF	leaf	
		FM	A	
		F	food	
		FM	A	
		FM	A	
		FMC	A	
		F±	obj	
		FM	A	
FM	A			

W = 11

D = 4

M = 4

FM = 12

FM± = 1

F<sub>C</sub> = 1

F± = 4

F± = 2

FC = 1½

CF = 5

A = 14

(A) = 1

H = 4

obj = 3

food = 3

fl = 1

blood = 1

app = 1

snow = 1

anat = 1

leaf = 1

R = 16

P = 4

O = 1

airt = 18.0

W:D = 11:4

W:M = 11:4

FM:M = 13:4

ΣC:M = 5¾:4

ΣC:Σ<sub>C</sub> = 5¾:1

FC:CF:C = 1½:5:0

A% = 50

F% = 20

F+% = 67

## Hand Test: RS

I.	9" Looks like raising the hand to someone: gonna hit them. Or saying "hi." About the only thing to me.	AGG COM																																										
II.	13" Someone's broken the little finger. Been injured. Showing someone that something's wrong with his finger - sticking out to the right.	CRIP	(DEP) (EXH)																																									
III.	2" Oh! My dad. "You!" Telling me to do something. "Bad." Pointing. My dad used to do that. Someone trying to tell someone. Angry.	FEAR	(PERS) (AGG)																																									
IV.	14" Looks like a soft, gentle hand. When you're getting baptized by a minister. Hand of God. Soft, tender.	DEP	(RELIG)																																									
V.	13" Looks like just a dead hand. Someone's been in a car accident. Hand is limp and lying there.	CRIP	(PAS)																																									
VI.	10" Oh! (laughs) Looks like my dad - hand always doubled up to hit me or someone. Ready to fight. An angry hand.	FEAR	(AGG) (PERS)																																									
VII.	12" hmm. Looks like someone is reaching for someone's hand. (Q) Don't know. A little child taking a hand. Ready to slap someone too. Could be a placid hand.	DEP AGG PAS	(IM) } (AMB)																																									
VIII.	11" hmm... Ready to snap their fingers. (Q) Don't know why... for some reason.	ACT	(MOV) (TEN?)	(IMP)																																								
IX.	15" This looks like a dead hand again. Just lying limp. Awful big thumb. (laughs) Just limp for some reason. Hand laying out. Man's hand.	CRIP	(PAS) (MASC)																																									
X.	17" Oh... I don't know... I'm so used to people putting their hand on my shoulder and saying, "Now, Rose, everything is going to be all right."	DEP	(PERS) (TEN?)																																									
<table> <tr> <td>AFF = 0</td><td>ACQ = 0</td><td>TEN = 0</td><td>DES = 0</td><td>R = 13</td></tr> <tr> <td>DEP = 3</td><td>ACT = 1</td><td>CRIP = 3</td><td>FAIL = 0</td><td>AIRT = 11.6</td></tr> <tr> <td>COM = 1</td><td>PAS = 1</td><td>FEAR = 2</td><td>BIZ = 0</td><td>H-L = 15</td></tr> <tr> <td>EXH = 0</td><td>Σ ENV = 2</td><td>Σ MAL = 5</td><td>Σ WITH = 0</td><td>PATH = 5</td></tr> <tr> <td>DIR = 0</td><td></td><td></td><td></td><td></td></tr> <tr> <td>AGG = 2</td><td></td><td></td><td></td><td></td></tr> <tr> <td>Σ INT = 6</td><td></td><td>ER = 6:2:5:0</td><td></td><td></td></tr> <tr> <td></td><td></td><td>AOR = 4:2</td><td></td><td></td></tr> </table>					AFF = 0	ACQ = 0	TEN = 0	DES = 0	R = 13	DEP = 3	ACT = 1	CRIP = 3	FAIL = 0	AIRT = 11.6	COM = 1	PAS = 1	FEAR = 2	BIZ = 0	H-L = 15	EXH = 0	Σ ENV = 2	Σ MAL = 5	Σ WITH = 0	PATH = 5	DIR = 0					AGG = 2					Σ INT = 6		ER = 6:2:5:0					AOR = 4:2		
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## References

- Bruch, H. *Eating disorders*. New York: Basic Books, 1973.
- Palazzoli, M. S. Anorexia nervosa. In Sylvano Arieti (Ed.), *The World*, biennial of psychiatry and psychotherapy, Vol. 1. New York: Basic Books, 1970.
- Roland, C. V., Jr. Anorexia nervosa: A survey of the literature and review of 30 cases. In Christopher V. Roland, Jr. (Ed.) *Anorexia and obesity*. Boston: Little Brown, 1970.
- Wagner, E. E. Diagnosis of conversion hysteria: An interpretation based on Structural Analyses. *Journal of Personality Assessment*, 1973, 5-15.
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## Personality Assessment and Insurance Reimbursement

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*Summary:* A contract between APA and OCHAMPUS has committed APA to developing a national peer review capability for the review of out-patient psychological services. This paper describes the review criteria which apply to personality assessment and psychological testing.

The submission of a claim for psychological services to a third party payer implies some further process by which a judgment will be rendered as to whether or not that claim should be paid. To date, the process has been largely technical and routine, and virtually all claims submitted by authorized providers for covered services offered to eligible beneficiaries have been paid. This has resulted in mental health garnering a reputation as a disproportionately costly service that is near impossible to insure. The control of this cost can be accomplished in two drastically different ways. The first is to limit cost on arbitrary grounds, so that there are dollar limits imposed on maximum benefits, heavy co-payments included in the policy, or some services placed entirely outside the coverage of the policy. This will be very cost-controlling, but has little professional merit. The alternative is to allow necessary services to be covered, but to place the burden of regulation on the profession involved. This can be cost-effective, and also has promise for promoting the quality of care.

In July, 1977, the Office of the Civilian Health and Medical Program of the Uniformed Services (OCHAMPUS) signed a contract with the American Psychological Association (APA) which committed the Association to developing a national peer review capability for out-patient psychological services. This involved the construction of criteria for claims review and the selection of a large panel of qualified reviewers. The National Advisory Panel charged with this responsibility consists of George Stricker (Chair), Russell Bent (Vice-Chair), Melvin Gravitz, Anna Rosenberg, Lee Sechrest, Joan Willens, Harl Young, and Wil-

liam Claiborn, the APA Project Director.

At the present time, a set of initial review criteria has been written and accepted by OCHAMPUS, and almost 500 reviewers have agreed to participate in this project. Most of the criteria concern psychotherapy, but one section of the manual deals exclusively with assessment, and the purpose of this paper is to describe these criteria. All cases of psychological testing and assessment, regardless of the profession of the provider, will be reviewed according to these criteria, and by the psychology review panel. While these criteria only apply to claims submitted to CHAMPUS, it is not unlikely that a successful review procedure will be adopted by other third-party payers. It should also be noted that deviations from these general criteria will be eligible for reimbursement if the provider includes an explanation which is satisfactory to the peers who are employed to review the case.

Claims for assessment must be submitted separately from any claims for treatment, will all be subject to review, and must indicate a clear statement as to the tests used, the time involved, and the purpose of the service. A distinction is made between testing and assessment. Assessment is a general term used for the diagnostic evaluation of a patient, and may include testing, interviewing, preparing reports, and consulting with the patient about results. Testing is a specific term reserved for procedures employing formal psychological tests.

Any testing or assessment, in order to be reimbursed, must be necessary for the determination of appropriate treatment or some other case disposition. Some decision must be contingent upon the results of testing, and "routine testing" is



not allowed. This assessment must be performed within the first eight sessions of therapy, or it must be referred to another professional. Thus, a therapist will not be compensated for testing his own patients after the first eight sessions of therapy, unless a justification satisfactory to a panel of peers is included.

There are also limits placed on the time that will be allowed for testing and assessment. Time listed for testing include administration, scoring, interpretation and preparation of reports. In general, testing is limited to four hours and the entire assessment process to six hours. If the Halstead-Reitan is involved, five hours will be allowed for testing, and seven for assessment. If the referral is only concerned with intellectual function, only two hours will be allowed for testing, and four for assessment. Self-administered tests can only be billed for thirty minutes. No more than three such tests are permitted in a single battery, and none can be administered to a child 11 years old or younger. Testing of a single patient which exceeds these limits within a 12-month span, or testing of other members of the patient's family by the same provider, will not be compensated unless there are compelling clinical reasons for doing so.

Finally, there are also guides as to ap-

propriate tests to include in a battery. We reviewed a number of published studies concerning test utilization and selected all those instruments which are currently in wide use. This list will be revised periodically, reflecting changes in patterns of usage by appropriate additions and deletions. The provider is allowed to use one test which is not included on the list, so that some idiosyncrasy or innovation will be allowed, but a marked deviation will require explanation to peers.

These criteria represent the Panel's best estimate as to sound current practice. In every case, these are intended as general guides to the review process rather than firm restrictive rules, so that clinically dictated exceptions will be reimbursed as long as a panel of peers can be convinced as to the necessity for the exception. The criteria also are a first, rather than a final, estimate, and they will be revised according to our experience with them. We are pleased to have been given the opportunity to participate in the review process, gratified that OCHAMPUS has taken a professional, rather than an arbitrary, path towards cost effectiveness, and hopeful that our efforts will result in a higher quality of service made available to patients being seen for assessment.

**Society for Personality Assessment, Inc.**  
**Minutes of the Meeting of the Board of Trustees**  
**Tampa, Florida**  
**March 31, 1978, 8:00-10:20 a.m.**

**Present:** Irving B. Weiner, presiding; Richard Dana, Anthony Davids, John Exner, Leonard Goodstein, Nelson Jones, Walter Klopfer, Max Reed, George Stricker, Marilyn Weir, Carl Zimet and sixteen members.

**Minutes:** The Minutes of the August 1977 meeting were approved as presented.

**Treasurer's Report (Stricker)**

The Society is in a stable financial condition as a result of the increase in dues.

**Membership Committee (Dana)**

The Board approved a total of 62 applicants which was a substantial increase over previous six month periods. Ten members were accorded Life Membership: John E. Bell, Lily Brunschwig, Lorraine Crovetto, Kathryn E. Dominguez, Robert M. Hughes, Boris M. Levinson, Cecil R. Miller, Zygmunt A. Piotrowski, Daniel Seitzman, and M. Elizabeth Steiner.

**Journal (Klopfer)**

The number of manuscripts received has remained high ( $N=94$ ) as well as the number of book reviews accepted for publication ( $N=40$ ). The publication lag has been reduced to ten months largely due to the increase in number of consulting editors. A more diversified balance of journal content has been achieved. The new blind reviewing process is working well to provide feedback to both author and reviewers.

**International Rorschach Congress (Exner)**

The IRC is planning a 1981 meeting in Washington, D.C. The Board passed a motion initiating exploration of joint sponsorship with a report and ensuing Board action at the August meeting. A planning committee consisting of Irving Weiner, John Exner, Charles Spielberger and one DC resident member was appointed.

**OLD BUSINESS**

**Midwinter Meeting**

The midwinter meeting was well attended. A parallel session format was used to accommodate the numbers of competent papers received. The Board approved a member rate for all graduate students for subsequent meetings. The good services of the Local Arrangements Committee (Charles Spielberger, Maria Martinroe, and Earl Taulbee) is gratefully acknowledged.

**Distinguished Contribution Award**

The award will be presented to Roy Schafer at the APA convention in Toronto. His award address will be titled, "Projective test responses manifesting the struggle against decompensation".

**NEW BUSINESS**

**Plans for APA**

The Board of Trustees will meet on August 27, 1978, 5:30 p.m. to 8:00 p.m. The award presentation and address will be on August 30, 3:00 p.m., followed by a reception at 4:00 p.m.

**1979 Midwinter Meeting**

The next midwinter meeting is tentatively scheduled for Scottsdale, Arizona during one of the first three weekends in March.

**Nominations**

The slate of candidates is as follows:

**President-Elect:**

Richard Dana  
Charles Spielberger

**Secretary:**

Norman Mitroff  
Tom Patterson

**Eastern Representative:**

Sidney Blatt  
Mary Clarke

**International Congress of Psychologists**

Irving Weiner and Nelson Jones are contact persons for information exchange with the International Congress.

**David Wechsler Professorship Fund**

Leah Gold Fein will talk to the membership during the cocktail hour regarding support for an endowed professorship at Hebrew University.

**Journal Editor Honorarium**

The Board approved a \$1,000 yearly honorarium for Walter Klopfer as journal editor, effective January 1978.

**Buros Memorial**

A memorial for O. K. Buros will be prepared for Publication in the Journal.

The meeting was adjourned at 10:20 a.m.

Respectfully submitted,  
Richard H. Dana, Secretary

**P.A. News & Notes**

As a result of an announcement in an earlier issue for an Editor of this column, we are very pleased at the response of a number of young psychologists who are willing to undertake this task. At the moment we have collected applications and vitae of a number of people, and the Editorial Board will make a selection in time for the new editor to take over the column for the August issue. We are happy at the enthusiastic response and look forward to our new colleague with eagerness and anticipation.

Earl S. Taulbee and  
Walter G. Klopfer

**Notice**

The XIXth International Congress of Applied Psychology will hold its meeting in Munich, Germany July 30th through August 5, 1978.

Write for the official registration form:

Congress Center  
Munich Fair Grounds  
P.O. Box 121009  
D-8000 München 12  
Federal Republic of Germany

The Congress fee for non-members is 210 DM.

For special travel programs contact the Official U.S. Agent:

Group Travel Unlimited, Inc.  
1025 Connecticut Avenue, N.W.  
Washington, D.C. 20036  
202/659-9555

See inside back cover  
for information about SPA Spring Meeting  
and call for papers.

## Book Reviews

**Alan D. Baddeley.** *The psychology of memory.* New York: Basic Books, 1976, 430 pages, \$13.95.

*Reviewed by Roger L. Greene*

Roger L. Greene, PhD, is assistant professor of psychology in the clinical psychology training program at Texas Tech University. His major research and teaching interests are in neuropsychological and personality assessment.

Baddeley has undertaken the admirable but difficult task of attempting to synthesize and integrate the rapidly expanding research in memory. Much to his credit he has avoided the pitfall of juxtaposing one research finding to another finding. Instead he has utilized his expertise in the area to try to make "sense" out of all the divergent findings. As he noted in the preface, other researchers may disagree with his personal interpretation of experiments and results, and more recent findings may point out discrepancies and shortcomings. Nevertheless he has done an excellent job of surveying the proliferating and divergent research in memory. The most remarkable feature of this book is the clarity with which Baddeley writes. He is able to take what could be extremely dull material and make it lively and interesting for the reader. Although the book is written at the advanced undergraduate level, any generally knowledgeable person could follow and understand his presentation.

The book follows a chronological presentation of the work in memory, and begins with a simplified model of memory which increases in complexity as the reader is familiar with the earlier presented material. He examines in detail the question of whether there are separate memory systems for short-term and long-term memory, or only one system functioning at different levels of learning. Although he decides that the evidence supports the former position many people would disagree with him. However, his inclusion of the pathologies of memory found in patients with Korsakov's syndrome in support of his position of two memory components is a significant factor overlooked by many experimental psychologists in constructing their theories of memory. It is to the benefit of Baddeley's position that he uses some of the information from individuals

with pathological memories. Unfortunately he does not make as much use of this information as he could to provide an overview of memory both normal and pathological. It is as if he uses the information on pathologies of memory when it supports his position without really considering the implications that the work in this area could have on a theory of memory. The clinician interested in information on the pathologies of memory will find little of direct usefulness in his book.

He devotes considerable time to discussing how and where information is forgotten. Again he makes use of clinical data from amnesia, electroconvulsive shock, and drugs in examining the issue of forgetting.

There are several chapters in his book which are particularly interesting since they get away from the heavy reliance on verbal learning which is most typical of research on memory. Thus, he devotes two chapters to recent work on visual, auditory, kinaesthetic, tactile, and olfactory memory.

In summary, Baddeley has written an excellent overview of the work in the area of memory.

**Sidney J. Blatt and Cynthia M. Wild.** *Schizophrenia: A Developmental Analysis.* New York: Academic Press, 1976, 274 pages, \$16.50.

*Reviewed by Sandra W. Russ*

Dr. Sandra Russ is currently on the clinical psychology faculty at Case Western Reserve University where she teaches psychological assessment and dynamic psychotherapy. Current research interests include developing measures of cognitive flexibility which can be used to assess change in psychotherapy. Before coming to Case Western Reserve, Dr. Russ was a staff psychologist at the Child Guidance Clinic at Washington University, where her major interests were child psychotherapy, community consultation, and development of consultation theory.

This work is a sophisticated presentation of schizophrenia as viewed within a developmental framework. Its basic hypothesis is that many of the various symptoms of schizophrenia are reflections of an underlying dis-



turbance in boundary differentiation. Boundary differentiation is defined as "the capacity to maintain a separation between independent objects and between representations of independent objects" (p. 6). Schizophrenics are seen as falling along a continuum of boundary disturbance; i.e. a "schizophrenic spectrum." For example, when comparing process with reactive schizophrenia, process schizophrenics are viewed as having more severe impairment of boundary differentiation. The degree of impairment relates to the degree of disruption of early object relationships. The authors emphasize that paranoid schizophrenics demonstrate better boundary differentiation than nonparanoid schizophrenics. Yet, the fact that paranoids do have difficulty in this area is reflected in many of the typical paranoid symptoms which are themselves attempts to maintain boundaries. Suspiciousness, guardedness, oppositional qualities and projection are all attempts to separate self from other.

The major contribution of this book is not in the presentation of the concept of boundary disturbance as a fundamental dimension of schizophrenia, nor do the authors claim it to be. This is not a new concept, and there is a good summary of the development of the concept in the text. Rather, the real contribution to the field is in the presentation of an excellent review of the psychoanalytic and developmental literature and in the integration of that literature in a way which supports their hypothesis.

Considering the book in more detail, in Chapters 2 and 3 the concept of boundary disturbance is utilized to account for various phenomena of schizophrenia. A basic point of the authors' is that the conceptualization of schizophrenia as a disturbance in boundary differentiation has great heuristic value. It will help organize diverse clinical observations and research findings. This is exactly what is done in Chapters 2 and 3. Problems of schizophrenics in two major areas are discussed in detail. The first major area is cognitive-perceptual functioning which includes such topics as reality testing, attention, concept formation, and thinking. The second area is sense of self and interpersonal relationships which includes constancy of self, object permanence, symbiosis, empathy, and the role of the family in the etiology and maintenance of boundary disturbance.

In Chapter 3, there is a particularly good discussion of difficulties in interpersonal relationships which reflect the need-fear dilemma of the schizophrenic. As the individual becomes close to another person, a fear of fusion or merging is aroused. As more distance is achieved, fear of annihilation becomes dom-

inant. This dilemma is understood within a developmental framework, interweaving concepts of Piaget, Mahler, Werner, and other major theorists in a well integrated fashion.

Chapter 4 gives clinical illustrations of five patients with different levels and types of boundary differentiation problems. These cases are well presented with a sophisticated clinical approach to hypothesis formation and integration of test and interview data. The reader is taken through the Rorschach and TAT in a step-by-step fashion with indices of boundary disturbance clearly spelled out. In particular, Rorschach indices are tied to behavioral manifestations, such as on the ward behavior. This chapter is ideal for students of psychological assessment. It is similar to being exposed to five ideal case conferences.

The book concludes with a discussion of guidelines for future research in the area of boundary disturbance in schizophrenia. The major recommendation is to use configurational approaches which examine the interrelationships between cognitive-perceptual processes, intrapsychic phenomena, and interpersonal functioning. A second recommendation is that the level of boundary differentiation be used as a criterion for identifying subgroups of schizophrenia for research purposes.

Overall, this book achieves a high level of integration of the ideas of major theorists such as Piaget and Mahler with developmental research. Thus, the authors achieved one of their stated objectives which was to present a systematic review of the literature. A second purpose was to offer guidelines for research. This they do in a rather global fashion. The guidelines are sound, however more specific, testable hypothesis could have been presented and expanded upon. Also, the methodological difficulties involved in using configurational approaches are not discussed. Stylistically, the book is often repetitive, but it is welcome repetition since the concepts are complex and there is a wealth of information to assimilate. The chapter summaries aid in this process. I would recommend this book for teaching purposes. It would be appropriate for graduate students who have some familiarity with psychodynamic concepts and who are learning about psychological assessment or psychopathology. I would also recommend this book to any practicing clinician who is seeing schizophrenic or borderline schizophrenic adults or children in therapy. This book by its integration of current ideas and research, takes the field a step further in understanding the phenomenon of boundary differentiation.

**Erness Bright Brody and Nathan Brody.**  
*Intelligence: Nature, Determinants, and Consequences.* New York: Academic Press, 1976, 241 pages, \$12.50.

Reviewed by James A. Wakefield, Jr.

Dr. Wakefield received his PhD in educational psychology from the University of Houston and completed a school psychology internship with the Houston Independent School District. He has published research in personality assessment, ability testing, and language learning. He is currently Associate Professor of Psychology at California State College, Stanislaus.

The Brodys' book on intelligence contains reviews of the history, measurement, and "validity" of the construct. It also contains balanced treatments of current controversies and a skeptical view of the usefulness of intelligence tests.

The first two chapters of the book present an historical review of the measurement of intelligence beginning with Galton's tests of sensory functions and simple reactions. Binet's tests followed and contrasted with Galton's in that they focused on "higher" mental processes, such as memory and comprehension. Also, by combining his tests to produce a single index of "intelligence in general," Binet implied the existence of "general intelligence." Spearman, then, theorized that a general intelligence factor (*g*) accounted for a substantial portion of the variance of a wide variety of ability tests. He supported this contention by demonstrating that ability tests were generally positively correlated. Thurstone considered intellectual abilities to be several primary factors, but Cattell showed that the primary factors, which were substantially correlated, produced a general factor and were consistent with the existence of "*g*."

Cattell considered "*g*" to be composed of fluid intelligence (the biological capacity to learn) and crystallized intelligence (the results of learning), and Guilford ignored "*g*" entirely, preferring to measure a wide variety of narrow cognitive abilities. The authors find both approaches lacking. Guilford's factors, in particular, are no more useful for predicting external criteria than are global measures of intelligence. While the authors conclude that the available evidence points toward a single factor ("*g*") as a major source of variance in intellectual tests, they warn that "*g*" should not be reified, but thought of as a statistical abstraction.

The third chapter deals with the distribution and stability of intelligence test scores.

The departure of the WAIS IQ distribution from the theoretical normal distribution (i.e., more extreme high and low scores than expected) can be accounted for by (a) a genetic theory postulating that genes influencing IQ have unequal effects, (b) an environmental theory postulating unequal effects of a number of environmental influences on IQ, or (c) a theory holding that genetic and environmental influences on IQ are positively correlated. The authors review evidence concerning the stability of IQs for children and adults that shows considerable stability, at least for IQs obtained after about age 5 or 6. Test-retest reliabilities over the entire age range of public school (6-18) ranged from a low of .77 between IQ at age 6 and IQ at age 18, and a high of .94 between IQs at ages 16 and 18. Of course, changes in IQ do occur — an average of about 11 points (up or down) from age 6 to 17. Longitudinal research with adults has recently cast doubt on the belief that IQ declines with age during adulthood.

Chapter 4 deals with "validity" topics, although the authors claim that none of the material provides direct information about the validity of the tests. Yes, IQ predicts school success; however, the authors insist that "... the fact that intelligence tests predict school grades is of little practical or theoretical interest (p. 89)." (Can this be true?) IQ also differentiates among occupations and predicts success in a variety of occupations, probably better than earlier reviews suggest. The authors, however, correctly warn against the exclusionary use of intelligence tests to upgrade occupations artificially.

The chapter on determinants of IQ scores contains a balanced review of the recent heredity-environment controversy. The authors review and criticize three different positions on the issue. Kamin, who denies any genetic influence on IQ, is praised for a timely criticism of the "classical" position (i.e., that about 80% of IQ variance is genetic) and some of its questionable supportive data — Burt's studies. Kamin, however, merely points to a relative lack of evidence for genetic influence rather than showing evidence for a lack of genetic influence. The authors conclude that there is reasonable evidence pointing to genetic influence on IQ somewhat in excess of the intermediate value of 45% that Jencks's analysis suggested.

Later, the authors conclude that at present no intervention techniques for meaningfully changing IQ exist. However, there is clear evidence for large-scale changes in IQ attributable to natural environmental changes such as those that have occurred in the US in the last 50 years.

Chapter 6 contains a lengthy, inconclusive review of Jensen's genetic explanation of the Black-White IQ difference and a short, clear review of Zajonc's recent confluence model of the effects of other family members on a child's IQ.

After reading the first 206 pages of the book, this reviewer was somewhat surprised at the negative tone of the conclusion on the use of intelligence tests. The authors warn about misinterpretation by users who believe the scores are "fixed and invariant." While overly rigid inferences from intelligence tests should be strongly discouraged, the stability of the tests and the current lack of techniques for manipulating IQ should not be taken lightly. Also, the authors are concerned that many psychologists incorrectly believe IQ is normally distributed. This reviewer wonders whether a psychologist who owns a good norm table and incorrectly thinks that IQ is normally distributed will make more errors than his better informed colleague who also owns a good norm table and knows that IQ produces a Pearson Type IV distribution.

Discussing the use of tests in selection, the authors note that even where a test — such as the SAT — predicts a criterion — college grades — about equally well for two groups — as the SAT apparently does for Blacks and Whites — decisions that are considered "fair" for individuals may paradoxically not be "fair" for groups, and vice versa. Where groups differ on a criterion, tests (or any valid selection procedure) can be fair to individuals or groups, but not to both simultaneously.

Finally, the clinical use of the WAIS is questioned. In the absence of convincing empirical data concerning the relationships between test patterns and personality, caution cannot be overemphasized.

This book is enthusiastically recommended for use in upper level undergraduate and graduate courses in individual differences and as a supplement to clinical manuals in assessment courses. The book contains sophisticated, balanced reviews of all the major issues concerning intelligence, except for the practical use of tests. True, intelligence tests can be misused in an amazing variety of ways, as the last chapter shows. However, the bulk of the material in the book would not suggest that intelligence tests — which are consistently related to so many "important" variables, are remarkably stable over long periods (although certainly not "fixed"), and have so far resisted both successful analysis into separate abilities and successful meaningful manipulation — be withdrawn from practical application. Instead, more rigorous training of test users and demythologizing IQ (not to be confused with

creating a myth of uniform intellectual competence) should reduce the number and the severity of abuses of intelligence tests. The Brodys' book will contribute to both.

**R. D. Cattell and R. M. Dreger (Eds.).**  
*Handbook of Modern Personality Theory.* New York: John Wiley, 1977, 804 pages, \$37.50.

*Reviewed by Robert Henley Woody*

*Dr. Woody received his PhD from Michigan State University, his ScD from the University of Pittsburgh. He is a Fellow of the American Psychological Association, a Fellow of the Society for Personality Assessment, and a Diplomate in Clinical Psychology, ABPP. He is Dean for Graduate Studies and Research and Professor of Psychology at the University of Nebraska at Omaha. For the past decade, Dr. Woody has maintained a private practice, emphasizing psychodiagnostics, marital and sex therapy, and psychotherapy. He has authored over 100 articles for professional journals (of which many deal with assessment) and five books, including Clinical Assessment in Counseling and Psychotherapy (Appleton-Century-Crofts, 1972).*

In both quantity and quality, the *Handbook of Modern Personality Theory* is, indeed, a weighty tome. Cattell and Dreger proudly assert that it is of an international character and that they "deliberately sought top authorities." Reviewing the contributors of the 31 original chapters supports their assertion: there is definitely a distinguished international array of researchers.

The volume covers seven sections: Conceptions in Structured Measurement of Personality Situations; the Genetic Bases of Personality Change and Development; the Sociological Domain of Personality; Special Expressions of Personality; the Psychopathology of Personality; and Integrations of Personality Concepts.

Emphasis throughout the volume is on "modern" personality research, with the term "modern" reflecting the evolutionary pattern progressing from "acute literary observation" to "nonexperimental and rarely quantitative clinical observation" to "truly experimental research" (the latter for the last 50 years).

All too frequently this type of compendium of research ends up being disjointed and lacking continuity. This volume is unique in that special attempts were made (even to the point of holding a three-day conference for all con-



tributors) to promote integration, compatible language, and cross-referencing. Cattell and Dreger acknowledge that they attempted to integrate methods and viewpoints, labeling it "unreasonable ... to expect students to resolve total differences of viewpoint and methodological standards that the experimental psychologists concerned have done nothing to resolve."

The editorial process sought "to strike a reasonably happy balance between the contributor's complete freedom of conclusion and the editorial upholding of methodological standards and response to different conclusions by other contributors." For the most part, it succeeds. Herein lies a distinction from other personality research texts, namely that there is a rigor (perhaps almost an obsession) for high quality experimental design in a subject area, i.e., personality theory, that has typically been fraught with subjectivity and mental machinations.

The significance of the research cited in the Cattell and Dreger *Handbook* cannot be fully appreciated without some knowledge of diverse personality theories, such as might be gained from introductory and intermediate texts on personality theory. Given the price, it would appear that graduate students would balk at purchasing this as a required text, albeit that the contents could provide a strong academic basis for the doctoral-level student of personality theories. For the clinical psychologist, whose orientation to personality theory must be filtered through pragmatism, this volume has limited potential. For example, many of the chapters present advanced and complex theoretical concepts and mathematical formulas, something in which the practicing clinical psychologist would have minimal interest. For the serious scholar of personality theories, however, the *Handbook of Modern Personality Theory* is an outstanding reference source.

**G. A. Foulds.** *The Hierarchical Nature of Personal Illness*. London: Academic Press, 1976, 158 pages, \$14.75.

Reviewed by Maurice Lorr

Maurice Lorr is a graduate of the University of Chicago and a diplomate in clinical psychology. At present he serves as professor in the Department of Psychology, Catholic University of America and conducts research as a member of Boys Town Center for the Study of Youth Development. He is the major author of *Syndromes of Psychosis* and has been active in developing such tools as the

Inpatient Multidimensional Psychiatric Scale, the Psychotic Inpatient Profile and the Interpersonal Style Inventory. His present research interest is in the personality development of adolescents, and the classification of the behavior disorders.

The author seeks to present a relatively novel conception of personal illness classes and their organization into a hierarchy. Following MacMurray, Foulds argues that the concept of a person is inclusive of the concept of an organism. All persons are organisms but not all organisms are persons. Personal illness involves a particular loss of intentionality and a loss of ability to enter or to maintain mutual personal relationships. The aim of treatment for personal illness is restoration of personhood while the aim of medicine is to restore normal functioning of the organism. The personal illness model is thus seen as inclusive of the medical model.

The severity of illness is viewed as reflecting the extent to which the individual has lost the attributes of personhood and not by the number of symptoms or the intensity of distress. The more severe the illness the less the individual is able to intend his own actions and thoughts, and the more he is actuated by motives outside his awareness. Therefore, he is less able to choose and to engage in mutual personal relationships.

Maladjusted personality deviants are carefully differentiated from the personally ill. The personally ill are egocentric in the sense of being excessively self-absorbed. The personality deviants are also egocentric but in the direction of manipulating others for their own ends. Consideration is given for possible models for the relationship between personal symptomatology and maladjustive personality deviance. The model chosen allows that the relationship is an either/or one. In other words, a double entry system is adopted for the classification of patients along the symptom dimension and the personality deviance dimension. In personal symptomatology, deviation is from the individual's own norms; in personality deviance, concern is with deviation from general population norms.

Fould's major proposal is that personal illness may be seen as divisible into four classes, each with several constituent syndromes. The classes are linked by a series of inclusive, non-reflexive relationships. The class lowest on the hierarchy is called Dysthymic States (anxiety, depression, and/or elation). They do not suffer from symptoms characteristic of classes higher in the order. The second class, called Neurotic Symptoms, suffer from Conversion, Dissociative, Phobic, Compulsive, or Obses-



sional symptoms in addition to one or more dysthymic states. The third class of Integration Delusions suffers from delusions of Persecution, Grandeur, and/or Contrition in addition to one or more syndromes of the two prior classes. The most severely disturbed class, termed Delusions of Disintegration, suffer from hallucination and delusions of passivity/influence as well as from one or more syndromes of the prior three classes. The hypothesis tested is that a person with symptoms at any class level will have symptoms at all lower class levels; contrariwise, a person without symptom at a given class level will not have symptoms at any higher level.

A self-report Delusions-Symptoms-States Inventory (DSSI) was constructed to measure the 12 syndromes, each consisting of 7 items. The hierarchy hypotheses was tested on the basis of the DSSI on 480 patients and 234 normals. Those who scored 4 or more on any set were allocated to the class in which the set fell. The proposition was well supported as just over 93% fell into patterns that conform with the hierarchy. Next an effort was made to test whether some more enduring personality attributes were related to the classes of personal illness. Measures of Extrapunitive, Intropunitive, and Dominance from the HDHQ were administered. The results indicated that Extrapunitive and Intropunitive means of the 4 classes are ranked 4, 3, 2, 1 as hypothesized.

The proposed conception has considerable interest and merit. The scheme implies that as personal illness increases in severity, it becomes increasingly complex. The classes are linked by a series of inclusive, nonreflexive relationships. The result is a rank order among people. This particular scale is generally known as a Guttman or cumulative scale. For example, if a person is 5'9" tall, he or she is also 5'8", 5'7", 5'6" and so on. Now there are fairly rigorous procedures for testing whether the responses of the patients to the statements are in accord with the hypothesis of a single dimension of severity. However, the author seems unaware of these procedures, and makes no reference to Guttman or cumulative scales. A further problem is that the author proposes a typology of rank ordered classes. It would have been much more useful to establish a rank order of quantitative variables. Much information and individual variation is lost in using classes. Quantitative variables, in contrast, are more useful to assess change in status, and to predict external criteria such as therapy success, duration of illness, or length of hospitalization. The model of a set of variables increasing in complexity has been proposed by Guttman and several ways of testing

the degree of fit of such a model are available.

There is a remaining question that is troubling. Why are sizeable, important, and relevant syndromes missing? Psychomotor retardation, disorientation, motor disturbances as manifested by catatonics, and conceptual disorganization are not accounted for. Another cluster is manic excitement. This suggests that much of schizophrenic behavior has been excluded perhaps because such syndromes are reported and noted by observers and not by the patient. This gap suggests that the self-report will always be incomplete and must be supplemented by manifest behavior noted by an external observer.

In summary, the proposed conception of personal illness has good support in the data reported. In addition, two recent investigations in Great Britain are also supportive of the hierarchical concept. To those concerned with taxonomies of the behavioral disorders the book of Foulds will be of considerable interest. The view presented concerning personal illness versus medical illness is also of timely interest. The revised psychiatric *Diagnostic and Statistical Manual III* is now on its way to publication. The *Manual* may include a definition of mental illness as a subset of medical disorders.

**Muriel Gardiner. *The Deadly Innocents: Portraits of Children Who Kill*. New York: Basic Books, 1976, \$8.95.**

*Reviewed by Louise Bates Ames*

*Dr. Ames received her PhD from Yale University in 1936. She is a co-founder of the Gesell Institute of Child Development and has been on its staff since its founding in 1950. She is currently President of the Institute.*

The title of this book was superbly chosen. Each of the leading characters presented in this series of stories about young criminals is indeed deadly in action. And yet at the same time and in some respects, innocent of a premeditated plan for committing evil.

The book itself is interesting, insightful, fair. In this reviewer's opinion it is the most helpful yet written about those young people who commit serious crimes.

Unlike the many who put all the blame for juvenile criminality on Society, Muriel Gardiner in each of her stories shows appreciation for the fact that the answer is more complex. Each of her stories tells of a sometimes almost accidental "occasion in which there happened to come together, in grisly coincidence, a child in some way brutalized by life, a suitable victim, an explosion of rage, and the means and

opportunity of giving vent to that rage."

Thus had Peter not been standing in the living room with a hammer in his hand while he was nailing a picture to the wall, his mother's habitual and customary criticism and reprimand might not have resulted in her murder.

The author makes a fair and important distinction between what she calls "family crimes or crimes of passion" and those committed for material gain. One may question her thesis that none of these crimes need have happened, while agreeing that she makes a good case for this thesis.

Though Gardiner leans heavily on her explanation that it is usually a certain combination of circumstances that leads to crime, admittedly many of her juveniles do have substantial personality or physical weaknesses. Thus Peter was small and poorly developed sexually, in fact worried about his own masculinity; Tom was sickly, suffering from rickets, eczema, and asthma; Rose, even as a preschooler, had violent temper tantrums and was extremely aggressive.

However, as is quite clear in each of the stories, every young person in this book grew up in circumstances abnormally lacking in kindness, love, and often of ordinary provisions for clothing and even for food.

This book presents perhaps unwittingly a very strong argument for abortion or birth control. Nearly every young criminal described here was in all respects clearly unwanted. Nearly all of the parents described were totally unsuited to being adequate fathers or mothers.

The point is made that in the opinion of some, "The murderers do best and have the best prognosis. They're so easy to understand. Any one of us could commit murder; we all at times have murder in our hearts." One of the most striking and chilling aspects of the murders described is the blind and almost unknowing way in which a youth having killed one member of his family whom he hated, then kills other family members simply because they were there.

The picture which the author gives of what the prison experience is like for young people is extremely revealing, and also steers a fair middle course between over-sympathy and "it serves them right." She clearly knows of what she speaks and she specially emphasizes the vital importance to prisoners of contact with the outside world — that is, with family and friends.

As Stephen Spender notes in his excellent introduction,

the author's main concerns are the social and family circumstances leading to homicide, the treatment of young offenders in prison and the

treatment given them by society after they have left prison. She puts forward serious reasons for thinking first that, if family and social circumstances had been different, these homicides need never have occurred and second that once they had occurred, the offenders might have been in some cases rehabilitated to their own benefit and to the advantage of society. Her purpose here is to persuade readers to agitate for changes in the family, the schools, the law courts, the prisons, and the rehabilitation centers.

I highly recommend this book to anyone concerned about juvenile delinquency and other deviant behavior. Though it does not excuse deviation, it does make the reader feel that the line between "normal" violence and actual violent crime is often very thin indeed.

**G. Goldstein & C. Neuringer (Eds.).**  
**Empirical Studies of Alcoholism.** Cambridge, Mass.: Ballinger, 1976, 270 pages, \$16.00.

*Reviewed by John Ramer*

*John C. Ramer received his BA degree from Gettysburg College, MS from Washington State University, and his PhD from University of Washington in 1961. He has been chief psychologist at the federal penitentiary in Terre Haute, Indiana, for the past five years. One of his first patients as a predoctoral trainee in the mental hospital was a chronic alcoholic. For the past three years he has sponsored the AA program at the penitentiary and began an alcoholic treatment unit within the penitentiary setting for alcoholic offenders.*

There is probably no more pervasive a public health problem than that of alcoholism with an equally wide variety of explanations for the problem shaped by biased exposures, emotionality, folklore, and subjective experiences. Like the weather that everyone talks about but very few understand, many of us are familiar with alcoholism but objective knowledge is greatly lacking. This book should help to rectify our deficiency. Psychological test results, experimental laboratory findings and data obtained from the neuropsychology field are all brought together in this one volume.

The book begins with a brief introductory chapter that well points out the lack of knowledge that we have about alcoholism and sets the stage for later chapters. For those with a psychological test interest there is a chapter that focuses on personality tests plus another chapter on the newer neuropsychological testing approach. The comparatively poor performance on the digit span subtest of the WAIS by alcoholics was almost a new finding for this reviewer. The importance of the right hemisphere and alcoholic impairment will certainly get increased atten-

tion from the neuropsychologists. A very thorough and thoughtful analysis of the Tension Reduction Hypothesis as a cause for alcoholism is presented by one of the contributors. He also presents a host of other experimental studies. If there is one general finding presented in this book it is that alcohol abuse definitely impairs the organism. This is clearly presented in a chapter on perceptual and cognitive deficiencies. The chapter on Korsakoff patients illustrates the extreme case of organic impairment. The two other chapters in this small but worthy book reviews the research on the behavioral treatment approaches to alcoholism and an empirically derived typology for hospitalized alcoholics. Not only are there five possible types of alcoholics, but the differences have implications for differential treatment approaches.

This small volume is excellent by most standards and should be read by all psychologists interested in alcoholism. It is clearly written with unbiased analyses of the studies issues and as such is quite thought provoking. Many additional research studies are suggested throughout the book while at the same time one gets the feeling that the objective approaches of the experimental laboratory and neuropsychology have really added to our knowledge of the alcoholic. This reviewer feels that the writers and editors have made a definite contribution to the literature and field of study on alcoholism.

**John R. Graham. *The MMPI — A Practical Guide*. New York: Oxford University Press, 261 pages, \$8.50.**

*Reviewed by David Nichols*

*The reviewer was granted his Ph.D. in Clinical Psychology by the University of Portland in 1973. He is currently a staff clinical psychologist at Dumas State Hospital in Wilson, Oregon. His main interests are in objective personality measurement, the psychopathology of schizophrenia, and brief psychotherapy. He is presently doing research in the psychometric prediction of response to psychiatric drugs. In the past several years he has offered a number of workshops in MMPI interpretation.*

Although the available number of books dealing exclusively with the MMPI currently number well over 20, none of these has achieved the status of a true introductory manual. Even the seasoned clinician has had to rely primarily on codebooks and underground literature in the form of one or several of the now numerous unpublished manuals and mini-guides for his routine work with the test.

Graham clearly intends *The MMPI — A Practical Guide* to fill the need for an authoritative teaching manual for the novice and a no frills, meat-and-potatoes source of valid and reliable interpretive principles for the busy clinician. In the initial chapters, his *Guide* takes the reader through the test's rationale, administration and scoring, the construction and correlates of the basic clinical and validity scales, and the basics of pattern analysis using 22 of the more frequent two-point code types. Also presented is a very complete discussion of several of the more popular research scales including Taylor's Manifest Anxiety scale and MacAndrew's Alcoholism scale, the rational subscales of Harris and Lingoes (including new subscales for *Mf* and *Si* developed by Serkownek), Wiggins' Content scales and the scales derived from cluster analysis by Tryon, Stein, and Chu. It is surprising to find only passing reference to the fairly popular Subtle-Obvious subscales of Wiener and Harmon, and no mention at all of Megargee's Overcontrolled Hostility scale even though a later section specifically addresses the handling of referral questions for acting out.

Later chapters present a thorough discussion of the application of interpretive principles to three cases and a presentation of six of the more popular domestic computerized interpretation services. These chapters are written in such a way as to permit the reader a comparison of automated reports on a single case with that obtainable by following the interpretive strategy illustrated by the author. A number of appendices are provided, including one which briefly reviews and provides basic reliability and validity information on several short-forms.

In general, the book admirably fulfills its purpose and could be used alone to carry the neophyte well beyond a "screening" level of interpretive skill. While stressing empirically derived correlates of the basic scales and code types, the first third of the text is largely free of distracting references and overqualifications, and the more consensually valid clinical lore and rules of thumb have not been sacrificed. Much of the material in this section is presented elsewhere, but nowhere more cogently or accessibly.

In some respects, however, Graham's treatment of the basic scales is a bit too concise. His failure to provide sample items leaves the reader without any of the "flavor" of scale content. Indeed, one misses even an exhortation in behalf of the value of the reader's familiarity with the scales at the item level.

It is also unfortunate that Graham did not see fit to offer any material on scale inter-



actions apart from those implied in the two-point code type descriptions. An extended discussion of how elevations on one scale act to modify the interpretation of others would appear especially warranted when the treatment of configural interpretation is restricted to two-point codes. Indeed, the decision to deny coverage to several of the more common 3- and 4-point code types is in itself a shortcoming of the book.

restricted to two-point codes. Indeed, the decision to deny coverage to several of the more common 3- and 4-point code types is in itself a shortcoming of the book.

Graham's attention to supplementary scales occupies fully another third of the book. The format and coverage provided in his discussion easily surpasses that available elsewhere and the veteran clinician will pick and choose from among the scales covered to meet his or her needs. The student, however, may gain the mistaken impression that sound if not common clinical practice involves the routine scoring of 50 or so additional scales.

This impression is reinforced in a later section on interpretive strategy when no fewer than 73 additional scales are scored for an illustrative case!

A couple of minor criticisms. Graham presents both the Hathaway and Welsh coding systems in the second chapter. This is bound to be a source of distraction if not confusion to student and clinician alike. The obsolete Hathaway system might have been relegated to an appendix. In a spot check of the items listed for the MacAndrew scale on page 162, three errors were found: item #357 should be #356 and items 215 and 460 should not be scored at all. Errors of this kind may be found on other keys so the reader should be wary.

These shortcomings do not balance the book's many virtues. For the student it has no peer and will prove an effective means for the rehabilitation of clinicians whose training afforded only spotty exposure to the MMPI. Finally, the book is well written and well produced and, well... when were you last able to get a professional book for \$8.50?

David H. L. Olson and Nancy S. Dahl (Eds.), *Inventory of Marriage and Family Literature* Vol. 4, 1975-1976. St Paul, Minnesota: Family Social Science, University of Minnesota, 1977, \$13.95 cloth (Individual).

Reviewed by Bernard I. Murstein

Bernard I. Murstein is professor of psychology and department chairman at Con-

necticut College and past president of the Society for Personality Assessment. His books have dealt with projective techniques, interpersonal attraction, love, the history of family and marital choice. His edited volume, *Exploring Intimate Life Styles*, will be published by Springer in 1978.

The fourth volume of the *Inventory of Marriage and Family Literature* is more extended than the immediately preceding volume for 1973-1974. This volume contained 2,413 articles in English by 3,432 authors published in 484 journals. The present volume contains 4,188 articles written by approximately 7,000 authors in over 750 journals.

The chief strength of the *Inventory* is its excellent triple classification system. All entries are listed by author(s) including the first author's current address. This is an invaluable aid since some journals for reasons best known to themselves give no identification for authors other than university or city of residence. If one wishes to write for a reprint, it is necessary to trace down the author by reference to a number of directories, since the marriage field draws on many diverse disciplines. Sometimes such searches are in vain and one cannot write to "Joe Doakes, care of New York City."

In addition to the author index, there is the Key Words in Titles (KWIT) index, which lists all articles by the key words appearing in the titles. The third index is the subject matter index in which all articles are classified by a 125 subject category list.

With the publication of Volume 4 a good index has been made still better. The *Inventory* remains the best possible abstract source for research workers in the field of marriage. Its coverage certainly is more extensive than that of Sociological Abstracts and information (thanks to the triple index) is much more readily accessible than that found in Psychological Abstracts. At \$9.95 for a 650 page book (soft cover) for individuals, it is well worth the price.

Are there any weaknesses remaining? Yes. For one thing the title is misleading, as I noted in my earlier review in the *Journal of Personality Assessment* of February 1977. The title ought to be changed to *Inventory of Periodical Marriage and Family Literature*, since only periodicals are indexed. Actually there are many important books and chapters written which a comprehensive inventory ought to include. The lack of this information remains the only serious weakness in the *Inventory*. Despite this omission, however, the *Inventory* is still a valuable guide to current research. The current expanded volume makes



it unlikely that many important periodical articles have gone unreported. It is a must for the serious researcher.

**Klaus F. Riegel and John A. Meacham (Eds.).** *The Developing Individual in a Changing World*, 2 vols., Chicago: Aldine, 1976, 736 pages + xli (I) + xxxi (II), \$43.00.

*Reviewed by Lita Linzer Schwartz*

*The reviewer teaches developmental psychology. She has special interests in the cross-cultural influences on the development of the individual as a learner and in the psychological development of women.*

The papers presented in these volumes represent about half of those presented at the second biennial meeting of the International Society for the Study of Behavioral Development (University of Michigan, 1973). The papers in Part I focus on historical and cultural issues related to development; those in Part II on the social and environmental issues. The contributors are primarily American, although there are also representatives from several European countries, the Middle East, Latin America, South Africa, and Japan.

Each volume is subdivided into sections, such as historical and theoretical issues (which includes the development of women throughout history), cognitivist and socialist approaches to development, cross-cultural differences in development, environmental conditions (including the effects of communications media on child development), social organizations, and the relation of interaction in social groups to individual development. Obviously the conference itself and the editing of the papers from it were considerable undertakings.

Material in the historical group of papers is presented in an interesting, sometimes anecdotal, style, sharpening the reader's perception of Stern, Binet, and Spranger as complete individuals. Helson's psychohistorical paper about women writers of three different time periods is of intrinsic interest as well as being an example of one of the areas into which psychologists are now moving. Similarly, Sheehan's article on aging women employs a psychohistorical approach. The theoretical papers are, of course, more technical, but equally stimulating presentations. The series of articles reporting Soviet theory and experimentation opens to American psychologists a rich literature normally not available to them. Alternative perspectives, rather than provoking disagreement, can stimulate ad-

ditional theory construction and experimentation. The cross-cultural studies of development also provide means of expanding and enriching our knowledge and applications of theory. Discussions of the problems of cross-cultural research by Whiting and Scribner alert readers to the need to be cognizant of anthropological techniques and data that can increase the validity and significance of such research. Throughout these papers and those in the second volume, the influence of Piaget and Erikson is apparent.

In the second volume, the authors examine the social and environmental contexts of development from public parks (Runyon) to the effects of the media here and abroad (Salomon; Leifer) to the more familiar preschool studies. The cross-cultural flavor is present in these articles as well as in the more cognitively-oriented papers. Our understanding of familial relationships is enhanced thereby, and should lead to a more enlightened response to interpersonal problems. Unusual, for example, in a developmental book is the attention paid to sibling influences on development (4 articles).

This extensive compilation of papers offers a wealth of thought-stimulating theory and experimental data not only on child development, but on development throughout the life span. This increases its value to psychologists and other mental health specialists. Some articles will also be of interest and worth to educators, anthropologists, and others concerned with people as individuals. The two lengthy bibliographies, too, provide a rich resource for the intellectually curious.

These are obviously not books to be read through in a couple of sittings. The range and depth of the articles is too great. They are books, however, that merit careful reading, probing, sampling, and thinking. There is something worthwhile in them for the clinician as well as the developmental psychology professor, for the theorist as well as the practitioner. Despite their cost, the two volumes would be a valuable addition to the psychologist's bookshelf.

**Albert Rothenberg, Carl R. Hausman (Eds.).** *The Creativity Question*. Durham, North Carolina: Duke University Press, 1976, 366 pages, \$14.75 (cloth), \$7.95 (paper).

*Reviewed by Peter B. Zeldow*

*Peter B. Zeldow received his PhD in Clinical Psychology at the Pennsylvania State University where, in 1971, he participated in a seminar on creativity conducted by Drs. Rothenberg and Hausman. He is currently*

Assistant Professor of Psychiatry at Upstate Medical Center and Staff Psychologist at the VA Hospital, Syracuse, New York.

The editors of this book, a psychiatrist and a philosopher, have brought together a group of readings on creativity of unusual diversity and range, interwoven with their own commentary on the creative process and on past attempts to explain it. The selections, 45 in all, represent primarily the disciplines of psychology, psychoanalysis, and philosophy. The fields of education, computer science, literature, and parapsychology appear more briefly. Most of the articles have either been abridged by the editors because of space limitations, or excerpted from book-length works. Fortunately, Rothenberg and Hausman were as judicious in this aspect of editing as they were in selecting the articles for inclusion, so that little loss in information or comprehension results.

The readings include theoretical and empirical accounts, and achieve a nice balance between well-known and lesser-known works of equal caliber. Thus a selection on the stages of creativity by Graham Wallas is followed by an empirical attempt to verify Wallas' theory by Catherine Patrick. Freud, Jung, and Rank are aptly represented, as are Kris and Kubie with their classic accounts of adaptive regression and neurotic distortions of creativity, respectively. An older and perhaps lesser-known article by Lee understands the creative act as an act of reparation for destructive fantasies. Among psychologists, Guilford, Barron, MacKinnon, Roe, Maslow, Rogers, Skinner, Mednick, and Schachtel are represented with readings which in each case serve as good introductions to their approaches and findings. I was pleasantly surprised to find, in addition, fairly recent papers by Helson on women mathematicians, and by Getzels and Csikszentmihalyi, on the attitude of concern for discovery which characterized their artist-subjects. A minor flaw is the failure to include a selection from either Wertheimer or Köhler. While neither used the word "creativity," both influenced its study and would better epitomize the Gestalt school than does Schachtel whose perspective is really developmental.

For psychologists interested in creativity, *The Creativity Question* is unique among source books in two ways. First, assessment is consciously deemphasized by the editors, so one cannot turn to this book for an up-to-date or advanced treatment of the subject. Second, the emphasis on philosophical contributions (by Blanshard, Pierce, Beardsley, and Croce, among others) will please some and annoy others. My only objections to the book involved the editors' introductory and concluding

remarks. I am more impressed than they appear to be with the contributions of psychology to the study of creativity. And I do not consider their conclusion that "creativity is both determined and undetermined at the same time" (p. 23) to be quite as radical or as helpful as they do. Certainly, the meaning and implications of such a seemingly impossible position need to be spelled out in greater detail.

Aside from these reservations, however, *The Creativity Question* deserves recognition as a fine multidisciplinary collection of readings, edited with great care. Anyone interested in the best that scholarship and research have revealed about creativity, from Plato to Poe and from Kant to Koestler, would do well to read it.

**J. S. Stumphauzer.** *Behavior Modification Principles, An Introduction and Training Manual.* Kalamazoo, Michigan: Behaviordelia, 1977, 192 pages, paper \$5.95.

Reviewed by Eric C. Theiner

The reviewer graduated from the University of Houston with a Doctorate in Clinical Psychology. His internship was at the Baylor University College of Medicine, Department of Psychiatry. Following three years in the Air Force, he has been functioning in a number of work settings, clinical, industrial and academic. His current activities relevant to the text being reviewed is that he is coordinator of a Behavior Modification Unit for a metropolitan hospital. His prior publications have been in the areas of cognitive complexity, test development and validation, and psychodrama.

Cyril Franks prefaces this book as follows:

This unpretentious new book...exemplifies...[the current concern with analysis of data rather than psyches. The author's]...goals are modest and clearly delineated: to present behavior therapy within the perspective of the behavioral scientist; to inculcate the reader with a healthy respect both for its successes and its limitations; to offer a clear statement of the principles of behavior therapy and their applications (p ix).

Overall, the description is fair.

The text consists of four main sections. The first is of an introduction to the basic concepts of behavior modification. There is a brief history, a summary discussion of current issues, and an introduction to the first two of the book's 21 "Principles," those of "Behavioral Analysis," and "Behavioral Measurements."

The second section consists of eight Prin-



ups," i.e., residents in correctional settings, HH patients, seminarians, and college students.

The scope of this encyclopedic book does not preclude the reviewer with a valid basis to select some references for comment. Two references are cited just to show the wide range of topics covered in the book. A study by Meyerhoff (1972) dealt with the investigation of the psychology of tubercular diabetics ( $n = 100$ ). Dymond (1954) published a study of married couples ( $n = 30$ ) which "appears to confirm the validity of the thesis that happiness of marriage is related to the partner's understanding of one another."

This book is essential for both the practitioner and researcher in behavioral science. It is a fine desk reference on the wellresearched MMPI. One might suggest that different chapters be color coded a la "P.D.R." But, aside from such consideration, the format, print, and execution of this book are of high calibre.

At \$35.00 this is hardly an inexpensive book. In today's market every item is expressed on a unit basis. I calculated that this encyclopedic item cost of \$0.163 for each reference or \$0.166 for each author cited in the book.

To the graduate student, as well as the cognoscente in psychology, this is an important compendium.

The authors stated in their foreword "each of us have found it to be an invaluable reference for clinical practice, teaching, and research." This sums it up, it is a resource *une qua non*.

#### References

- Dymond, R. Interpersonal perception and marital adjustment. *Journal of Consulting and Clinical Psychology*, 1954, 8, 164-171.
- Meyerhoff, H. The psychology of tuberculosis patients. *Zeitschrift für experimentelle u angewandte Psychologie*, 1952, 5, 451-464.



## Books Available For Review

**Write to Book Review Editor: Dr. Max R. Reed, 6201 S.W. Capitol Highway, Portland, Oregon 97201.**

- Stephen A. Appelbaum *The Anatomy of Change*. New York: Plenum, 1977. 308 pages, \$24.50.
- Richard I. Arends and Jane H. Arends. *Systems Change Strategies in Educational Settings*. New York: Human Sciences Press, 1977. 120 pages, \$9.95.
- Eugene I. Arnold *Helping Parents Help Their Children*. New York: Brunner Mazel, 1978. 420 pages, \$17.50.
- David P. Ausubel and Daniel Kirk. *Ego Psychology and Mental Disorder*. New York: Grune and Stratton, 1977. \$19.50.
- Michael J. Austin *Professionals and Paraprofessionals*. New York: Human Sciences Press, 1978. 295 pages, \$16.95.
- D. Bannister (Editor) *New Perspectives in Personal Construct Theory*. London: Academic, 1977. 355 pages, \$21.75.
- Thomas Blass *Personality Variables in Social Behavior*. New York: Halsted, 1977. 405 pages, \$19.95.
- John Bowlby *Attachment*. New York: Basic Books, 1977. 428 pages, \$4.95.
- John Bowlby. *Separation Anxiety and Anger*. New York: Basic Books, 1977. 456 pages, \$4.95.
- Elaine M. Brody. *Long-Term Care of Older People. A Practical Guide*. New York: Human Sciences Press, 1977. 366 pages, \$17.95.
- Dudley I. Chapman *The Sexual Equation*. New York: Philosophical Library, 1977. 434 pages, \$16.95.
- Gerard Chrzanowski *Interpersonal Approach to Psychoanalysis*. New York: Halsted, 1977. 242 pages, \$16.95.
- Richard W. Coan. *Hero, Artist, Sage, or Saint?* New York: Columbia University Press, 1977. 322 pages, \$20.00 hardcover, \$6.50 paperback.
- Valerian J. Derlega and Louis H. Janda *Personal Adjustment: The Psychology of Everyday Life*. Morristown: General Learning Press, 1978. 629 pages, \$12.95.
- Jack D. Douglas, Paul K. Rasmussen, Carol Ann Flanagan. *The Nude Beach*. Beverly Hills: Sage, 1977. 244 pages, \$13.95 hardcover; \$6.95 softcover.
- David J. Drum, J. Eugene Knott. *Structured Groups for Facilitating Development: Acquiring Life Skills, Resolving Life Threats and Making Life Transactions*. New York: Human Sciences Press, 1977. 284 pages, \$11.95.
- Daniel Duckman. *Negotiations — Social Psychological Perspectives*. Beverly Hills: Sage, 1977. 416 pages, \$25.00.
- Thomas R. Faschingbauer and Charles S. Newmark. *Short Forms of the MMPI*. Lexington: D. C. Heath, 1978. 188 pages, \$15.00.
- Herman Feifel. *New Meanings of Death*. New York: McGraw-Hill, 1977. 367 pages, \$7.95.
- John E. Gedo and Arnold Goldberg. *Model of the Mind, a Psychoanalytic Theory*. Chicago: The University of Chicago Press, 1976. 220 pages, \$4.45 paper.
- Marianne Githens and Jewel L. Prestage (Editors). *A Portrait of Marginality*. New York: David McKay, 1977. 436 pages, \$6.95.
- Mary L. Gottesfeld and Mary E. Pharis. *Profiles in Social Work*. New York: Human Sciences Press, 1977. 238 pages, \$14.95.
- Alan R. Gruber. *Children in Foster Care: Destitute, Neglected, Betrayed*. New York: Human Sciences Press, 1977. 176 pages, \$11.95.
- Douglas H. Heath. *Maturity and Competence. A Transcultural View*. New York: Gardner, 1977. 287 pages, price unknown.
- Hubert J. M. Hermans. *Value Areas and Their Development, Theory and Method of Self-Confrontation*. Amsterdam: Swets and Zeitlinger B. V., 1976. 294 pages, Dutch Guilders 88.40.
- Michael P. Janisse. *Pupillometry: The Psychology of the Pupillary Response*. New York: Hemisphere, 1977. 204 pages, \$22.50.
- Lisa Jarvinen. *Personality Characteristics of Violent Offenders and Suicidal Individuals*. Helsinki: The Finnish Academy of Science and Letters, 1977. 210 pages, price unknown.
- Brian G. Jones, Charles Dayton, H. B. Gelatt. *New Methods for Delivering Human Services*. New York: Human Sciences Press, 1977. 140 pages, \$10.95.

- Mark Kammerman. *Sensory Isolation and Personality Change*. Springfield: Charles C. Thomas, 1977. 310 pages, \$12.75.
- Florence Whiteman Kaslow and Associates. *Supervision, Consultation and Staff Training in the Helping Professions*. San Francisco: Jossey-Bass, 1977. 342 pages, \$15.00.
- Eric Klinger. *Meaning and Void*. Minneapolis: University of Minneapolis Press, 1977. 412 pages, \$16.50.
- Jon E. Krapfl and Ernest A. Vargas (Editors). *Behaviorism and Ethics*. Kalamazoo: Behaviordelia, 1977. 240 pages, \$12.95.
- Jackie Lamb and Wesley Lamb. *Parent Education and Elementary Counseling*. New York: Human Sciences Press, 1977. 143 pages, \$9.95.
- Ralph LaRossa. *Conflict and Power in Marriage — Expecting the First Child*. Beverly Hills: Sage, 1977. 169 pages, \$14.00 hardcover; \$6.95 soft.
- Christopher Lasch. *Haven in a Heartless World — The Family Besieged*. New York: Basic Books, 1977. 230 pages, \$15.00.
- Richard Malott, Mary Tillema, and Sigrid Glenn. *Behavior Analysis and Behavior Modifications. An Introduction*. Kalamazoo: Behaviordelia, 1978. 442 pages, \$6.00.
- Alfred J. Marrow. *The Practical Theorist, The Life and Work of Kurt Lewin*. New York: Teachers College Press, Columbia University, 1977. 290 pages, price unknown.
- Donald Meichenbaum. *Cognitive-Behavior Modification. An Integrative Approach*. New York: Plenum, 1977. 305 pages, price unknown.
- George A. Miller (Editor). *Communication, Language, and Meaning. Psychological Perspectives*. New York: Basic Books, 1977. 304 pages, \$4.95 (paper).
- John B. Miner. *Motivation to Manage. A Ten Year Update on the "Studies in Management Education" Research*. Atlanta 1977. 248 pages, price unknown.
- Monique V. G. Morval. *Le T.A.T. et Les Fonctions Du Moi Propedeutique A L'Usage Du Psychologue Clinicien*. Montreal: Les Presses De L'Universite De Montreal, 1977. 168 pages, \$7.50.
- Ann F. Neel. *Theories in Psychology. A Handbook*. New York: Halsted, 1977. 699 pages, \$24.50 cloth, \$9.95 paper.
- John T. Neisworth, Stanley L. Deno and Joseph R. Jenkins. *Student Motivation and Classroom Management*. Kalamazoo: Behaviordelia, 1977. 150 pages, \$5.50.
- Roald Nygard. *Personality, Situation, and Persistence*. New York: Columbia University Press, 1977. 282 pages, \$20.00.
- Dan Olweus. *Aggression in the Schools: Bullies and Whipping Boys*. Washington, D.C.: Hemisphere, 1978. 218 pages, \$14.95.
- J. Blair Pace. *Pain, A Personal Experience*. Chicago: Nelson-Hall, 1976. 163 pages, \$7.95.
- Rolland S. Parker. *Effective Decisions & Emotional Fulfillment, A Guide to Making the Right Choices for Success in Life*. Chicago: Nelson-Hall, 1977. 290 pages, \$11.95.
- Rolland S. Parker. *Emotional Common Sense*. New York: Barnes and Nobel Books, 1973. 219 pages, \$2.95 softcover.
- Rolland S. Parker. *Psychology and Counseling Careers*. New York: Rolland S. Parker, 66 pages, price unknown.
- Beeman Phillips. *School Stress and Anxiety*. New York: Human Sciences Press, 1978. 165 pages, \$9.95.
- David K. Reynolds and Norman L. Farberow. *Endangered Hope*. Berkeley and Los Angeles: University of California Press, 1977. 184 pages, \$10.95.
- David K. Reynolds and Norman L. Farberow. *Suicide: Inside and Out*. Berkeley: University of California Press, 1978. 237 pages, \$3.85.
- Stanley D. Rosenberg and Bernard J. Bergen. *The Cold Fire, Alienation and the Method Culture*. New Hampshire: University Press of England, 1977. 214 pages, \$10.00.
- ( ) Ruth Russell. *Freedom to Die. Moral and Legal Aspects of Euthanasia*. New York: Human Sciences Press. Revised Edition 1977. 413 pages, \$14.95, cloth.
- Shirley C. Samuels. *Enhancing Self-Concept in Early Childhood*. New York: Human Sciences Press, 1977. 312 pages, \$16.95, cloth; \$7.95, paper.
- Maggie Seall. *Body, Mind, Behavior. Why Do People Behave The Way They Do?*. New York: Dell, 1976. 365 pages, \$2.25.
- J. Schuerger and D. Watterson. *Using Tests and Other Information in Counseling*. Champaign: Institute for Personality and Ability Testing, 1977. 170 pages, \$7.95.
- John D. Shingleton and Robert Bao. *College to Career. Finding Yourself in the Job Market*. New York: McGraw-Hill, 1977. 268 pages, \$5.95.
- Irwin Silverman. *The Human Subject in the Psychological Laboratory*. New York: Pergamon, 1977. 151 pages, \$5.50 flexi-cover, \$12.50 hardcover.

- Patrick Slatter (Editor) *Dimensions of Intrapersonal Space: The Measurement of Intrapersonal Space Vol. 2*. London: Wiley, 1977. 270 pages, \$26.50.
- Anthony Serrentino. *Organizing Against Crime*. New York: Human Sciences, 1977. 272 pages, \$14.95.
- Paul J. Stern. *C. G. Jung, the Haunted Prophet*. New York: Dell, 1977. 267 pages, \$3.95.
- Harold Stern. *The Couch*. New York: Human Sciences Press, 1978. 224 pages, \$13.95.
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- John G. Watkins. *The Therapeutic Self: Developing Resonance: Key to Effective Relationships*. New York: Human Sciences Press, 1978. 554 pages, \$19.95.
- Irving B. Weiner. *Principles of Psychotherapy*. New York: Wiley, 1975. 332 pages, \$17.00.
- Jerry M. Weiner. *Psychopharmacology in Childhood and Adolescence*. New York: Basic Books, 1977. 226 pages, \$15.00.
- Donald R. Wesson and David F. Smith. *Barbiturates*. New York: Human Sciences Press, 1977. 144 pages, \$14.95 hardcover, \$4.95 paper.
- Michael Young and Peter Willmott. *The Symmetrical Family*. New York: Penguin Books, 1977. 398 pages, \$3.95.
- Louis A. Zurcher, Jr. *The Mutable Self: A Self-Concept for Social Change*. Beverly Hills: Sage, 1977. 280 pages, \$14.00 hardcover, \$6.95 paperback.

**1979 Meeting of SPA**  
**March 15-17 in Scottsdale, Arizona**  
**Call for Papers and Suggested Symposia and Workshops**

**Papers:** Papers submitted for consideration of the Program Committee should represent content relevant to assessment. Those interested in presenting such a paper should submit a 300 to 400 word abstract (in triplicate) plus tables. Papers selected for the program will be allowed 15 minutes for presentation.

**Symposia:** A total of 90 minutes, including discussion time, will be allowed for each symposium selected. Suggestions for symposia should be accompanied by a 400 to 500 word description of the theme and purpose (in triplicate). Each presenter should be identified by name, title of presentation, and a 100 to 200 word description of the presentation.

**THE DEADLINE FOR SUBMISSION OF PAPERS OR SYMPOSIA  
SUGGESTIONS IS OCTOBER 16, 1978**

**Workshops:** Suggestions for workshops should include a statement of the purpose, some identification of the background of acceptable participants, and a detailed outline of the format to be followed. A curriculum vita of the workshop director should also be included. Workshop directors will be reimbursed for expenses.

(Look for more information in the August issue.)

The deadline for submission of suggested papers, symposia or workshops is October 16, 1978. Send to:

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Portland State University

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## Editorial

May 18, 1978

I would like to thank Earl S. Taulbee for his many years of service as editor of the "News and Notes" section of this *Journal*. As you know, he recently retired from this position and we have been recruiting a replacement.

I am happy to announce the appointment of Ed Aronow as the new editor of the "News and Notes" section. All members of the Society for Personality Assessment and other readers of this *Journal* are encouraged to send Dr. Aronow materials to be used for his column. This could include short comments, letters to

the editor, media presentations of personality assessment materials, poems, jokes, announcements, or any other matters that might be of interest. It will, of course, be up to Dr. Aronow to decide what to include and how much space to allot to it. I hope that everyone will take advantage of this opportunity to communicate with the readers of this *Journal* in an informal way every two months. Please write to him at 59 Gordonhurst Avenue, Upper Montclair, New Jersey 07043.

Walter G. Klopfer, Editor

### 1978 SPA Meeting in Toronto

The Society for Personality Assessment, Inc. Board Meeting

**Sunday, August 27 — 5:30–8:00 pm**

**Room 6, Royal York**

Dr. Roy Schafer will receive the Bruno Klopfer Distinguished Contribution award. Address: *Projective Test Responses Manifesting the Struggle Against Decompensation*.

**Tuesday, August 29 — 4:00–4:50 pm**

**Commonwealth Centre Room**

**Holiday Inn Toronto**

Reception follows immediately in the same location.

**5:00–5:50 pm**

*Notice that the June issue reported in the Minutes that August 30th was the date for the Award. That was an error. Tuesday, August 29th is the correct date. Also notice the new hours.*

## Rorschach Indices of Disordered Thinking in Patient and Nonpatient Adolescents and Adults

IRVING B. WEINER  
Case Western Reserve University

and

JOHN E. EXNER, Jr.  
Long Island University  
and Rorschach Workshops

**Summary:** In a normative study of 1,570 Rorschach protocols, nonpatient adolescents were found significantly more likely than nonpatient adults to display certain reliably scored indices of disordered thinking. Nevertheless, nonpatient adolescents were still significantly less likely to display these indices than adolescent patients referred for withdrawal or behavior problems. Similarly, nonpatient adults gave significantly fewer indices than adults being seen in outpatient settings or hospitalized for schizophrenia. The results (a) concur with a continuity perspective on normal and abnormal behavior; (b) provide normative standards for the occurrence of Rorschach indices of disordered thinking in adolescent and adult subjects; and (c) lend construct validity to the use of these indices in assessing the presence and severity of psychological disturbance.

Rorschach clinicians, beginning with Hermann Rorschach (1921), have identified numerous unusual ways of formulating responses that appear to reflect disordered thinking (Holt, 1970, 1977; Rapaport, Gill, & Schafer, 1968; Weiner, 1966). Abundant research has confirmed that many of these indices of disordered thinking — including Contamination, Fabulized Combination, and Autistic Logic — can distinguish schizophrenic from nonschizophrenic individuals, presumably because they represent fairly directly the kinds of inflexible, idiosyncratic, and illogical thinking that frequently characterizes schizophrenic disturbance (Blatt & Ritzler, 1974; Bohm, 1958; Friedman, 1953; Pope & Jensen, 1957; Powers & Hamlin, 1955; Quinlan & Harrow, 1974; Quirk, Quarrington, Neiger, & Sleman, 1962; Watkins & Stauffacher, 1952).

Despite the potential utility of these indices, their application has been hampered by considerable variation in how they are defined and a corresponding lack of reliability in scoring them. Recently, however, as part of Exner's Comprehensive Rorschach System, the following five indices have been defined in a manner that has yielded adequate interscorer reliabilities in two studies, one involving the scoring of 40 protocols by

10 examiners and the other involving the scoring of 75 selected responses by 18 examiners (Exner, 1974; Exner, in press; Exner, Weiner, & Schuyler, 1976):

1. *Deviant Verbalization (DV)* A response characterized by distorted language usage or idiosyncratic modes of expression that impede clear communication ("An x-ray of somebody's self"; "Something from a biography lab"); interscorer reliabilities of .81 and .86.

2. *Autistic Logic (ALOG)* The explicit statement of arbitrary or circumstantial reasoning used in formulating a response ("It's the north pole because it's at the top"); interscorer reliabilities of .87 and .82.

3. *Incongruous Combination (INCOM)* The condensation of impressions of two or more separate blot details into a single, incongruous percept ("A person with the head of a bat"); interscorer reliabilities of .84 and .88.

4. *Fabulized Combination (FABCOM)* A response that infers an implausible relationship between two or more blot details ("Two chickens holding basketballs"); interscorer reliabilities of .91 and .82.

5. *Contamination (CONTAM)* The fusion of two or more impressions of a single blot area into a percept that violates reality ("The front of a bug-ox"); interscorer reliabilities of .82 and .81.

The research reported in this paper concerns the frequency of these five Ror-

schach indices of disordered thinking in the records of patient and nonpatient adolescents and adults. Some previous findings have suggested two related possibilities in this regard: first, that nonpatient adolescents, because of certain normative tendencies toward circumstantial reasoning in this age group, may be more likely than nonpatient adults to produce Rorschach indices of disordered thinking (Ames, Metraux, & Walker, 1971; Schimek, 1974); second, that disturbed adolescents can nevertheless be expected to produce these indices more frequently than nonpatient adolescents (Cohen, Hiegelman, Gluck, & Kelman, 1970; Silverman, Lapkin, & Rosenbaum, 1962). However, additional normative data are necessary to document these hypotheses.

### Procedure

The present study utilized 1,570 Rorschach protocols available from the data pool maintained by Rorschach Workshops. These protocols have been produced by a large number of examiners working in many different settings, along with the potential advantage of such diversity in normative studies, it is also important to note that all of these Rorschach tests have been administered and scored uniformly following the Comprehensive System. The distribution of the 1,570 records among the subject groups under study was as follows:

**Adolescents.** Eight hundred fifty records were from 12- to 16-year-olds with representative equal numbers from each of the four age groups 12, 13, 14, 15, and 16. Of this number, 325 were nonpatients, 348 had been referred for evaluation because of problems almost certainly involving mental and/or emotional disturbance, and 180 had been referred for evaluation in connection with withdrawal behavior of almost certainly nonpsychiatric nature. The nonpatients were drawn randomly from a much larger sample of outpatients of adolescent patients, and included several very minor patients from the programs of Rorschach Workshops. This latter group is estimated to be similar to that closely approximates the 1970 U.S. census with respect to sex, social class, and urban-

suburban-rural residence, and their records were obtained primarily through the cooperation of school systems that allowed their students to volunteer to be examined.

**Adults.** Seven hundred twenty records were given by subjects 18-59, of whom 325 were nonpatients; 185 were outpatients in various kinds of mental health facilities, and 210 were inpatient schizophrenics. The nonpatient adults, like the nonpatient adolescents, were drawn randomly from a normative sample that approximates the 1970 census on the demographic variables mentioned above. These adult records were obtained from a variety of groups whose members responded to a request for voluntary participation, including church congregations and bank, factory, hospital, and telephone company employees.

### Results

Table 1 indicates for each subject group the percent of protocols containing one or more of each of the five indices of disordered thinking and the mean number of indices per group. Table 2 reports  $\chi^2$  values for comparisons of the frequencies of occurrence and nonoccurrence of each index between the nonpatient adolescents and nonpatient adults, based on  $2 \times 2$  contingency tables, among the nonpatient, behavior problem, and withdrawn adolescents, based on  $3 \times 2$  contingency tables, and among the nonpatient, outpatient and inpatient schizophrenic adults, based on  $3 \times 2$  tables. The results in these tables can be summarized as follows:

1. The nonpatient adolescents were significantly more likely than the nonpatient adults to include one or more ALOG, INCOM, and FABCOM responses in their protocols. DV showed a nonsignificant trend in this direction, whereas CONIAM did not appear in either group.

2. Despite the relative frequency of these indices of disordered thinking in the records of the nonpatient adolescents as compared to the nonpatient adults, the nonpatient adolescents were still significantly less likely than the behavior problem and withdrawn adolescents to give

Table 1

Frequency of Indices of Disordered Thinking in  
Patient and Nonpatient Adolescent and Adult Rorschachs

Group	Index									
	DV		A LOG		INCOM		FABCOM		CONTAM	
	% <sup>a</sup>	$\bar{X}$ <sup>b</sup>	%	$\bar{X}$	%	$\bar{X}$	%	$\bar{X}$	%	$\bar{X}$
Adolescents										
Nonpatient ( <i>n</i> = 325)	29	34	36	43	61	80	33	38	0	0
Behavior problem ( <i>n</i> = 345)	70	92	77	148	84	181	83	134	0	0
Withdrawn ( <i>n</i> = 180)	66	83	80	113	87	140	80	86	8	0
Adults										
Nonpatient ( <i>n</i> = 325)	13	18	9	18	20	28	20	17	6	0
Outpatient ( <i>n</i> = 185)	33	41	19	22	39	81	11	34	1	0
Inpatient schizophrenic ( <i>n</i> = 210)	81	101	98	138	87	148	80	89	12	14

Note. DV, Deviant Verbalization; A LOG, Ambiguous Logic; INCOM, Incoherence; FABCOM, Factual Combination; CONTAM, Contaminated Content.

<sup>a</sup>Percent of protocols containing one or more such responses.

<sup>b</sup>Mean number of such responses per record.

DV, A LOG, INCOM, and FABCOM responses. The latter two groups were about equally likely to give such responses. CONTAM showed a nonsignificant tendency to discriminate among the groups and was given only by the withdrawn adolescents.

3. The nonpatient adult, outpatient adult, and inpatient schizophrenic adult groups showed a respectively increasing frequency of giving DV, A LOG, INCOM, FABCOM, and CONTAM responses, and the differences among the groups were statistically significant for each of the five indices.

### Discussion

The data would appear to provide an

impressive demonstration that normative frequencies of indices of disordered thinking in the Rorschach are more likely to be observed in patients than in nonpatients. This is especially true for the INCOM and FABCOM indices, which are given by patients and outpatients who are hospitalized and by inpatients who are hospitalized. It is also true for the DV, A LOG, and CONTAM indices, which are given by patients and outpatients who are hospitalized and by inpatients who are hospitalized. The data suggest that the Rorschach is a useful tool for the diagnosis of schizophrenia.

One methodological and two substantive limitations of this research are important to note. With respect to method, only most validity studies of Rorschach and other test indices have frequently and



Table 2

Chi-Square Values for Group Differences in Rorschach Indices of Disordered Thinking

Index	Nonpatients: Adolescents x Adults <sup>a</sup>	Adolescents: Nonpatient x Behavior Problem x Withdrawn <sup>b</sup>	Adults: Nonpatient x Outpatient x Inpatient Schizophrenic <sup>b</sup>
Deviant Verbalization	2.465	7.608*	26.843***
Autistic Logic	7.377**	14.122***	48.674***
Incongruous Combination	12.355***	6.729*	25.576***
Fabulized Combination	6.060*	22.960***	31.407***
Contamination	0.	3.172	9.281*

\*  $p < .05$ .\*\*  $p < .01$ .\*\*\*  $p < .001$ .<sup>a</sup> Based on  $2 \times 2$  contingency tables for frequencies of occurrence and nonoccurrence of index.<sup>b</sup> Based on  $3 \times 2$  contingency tables for frequencies of occurrence and nonoccurrence of index.

ferred from contamination of the independent and dependent variables. That is, a test index presumed to be associated with some condition has played a role in designating that condition to exist in the subject group being studied. For example, to the extent that Rorschach "face" responses in patients' protocols have contributed to their being labeled "paranoid," any effort to validate such a relationship by examining the protocols of patients who have been so labeled is contaminated. A pre-existing correlation between "faces" and "paranoid" has been built into the data, and the significance of the obtained results has thus been artificially inflated (see Weiner, 1977).

The present study avoids such contamination by relying primarily on objective subject variables that existed independently of Rorschach results. The nonpatient adolescents and adults were volunteers representative of their U.S.

age group in sex, social class, and place of residence; the behavior problems and withdrawn adolescents were so defined on the basis of the observable problems for which they were referred, prior to any diagnostic or other inferential judgments being made about them; and the outpatient adults represent a clinic population selected independently of diagnosis. This leaves only the inpatient schizophrenic adults, who were chosen not to represent diagnosed schizophrenics but rather because being hospitalized in a psychiatric facility would seem to be a reasonably good behavioral index of relatively serious psychological disturbance.

Turning to clinical implications, the data confirm the increasingly common observation in clinical and research studies that disordered thinking is not unique to serious disturbance. Persons with many kinds of mild disturbance may manifest thought disorder, although not as frequently or as flagrantly as hospitalized

schizophrenics, and even normal individuals occasionally display transient episodes of disordered thinking — especially if they are age 12-16. Thus the present findings constitute further evidence of the continuity between normal and abnormal behavior, which differ more in the amount and pervasiveness of certain kinds of behavior than in the quality of this behavior. The fact that these Rorschach data fit so well with broader current knowledge concerning psychopathology also lends construct validity to these indices of disordered thinking.

Finally, the data say something about the diagnostic inferences that should be drawn from the presence of these Rorschach indices. The more frequently they occur in a record, the more likely and the more seriously the subject is to be disturbed. However, it is not unusual for them to be given in small numbers by psychologically intact subjects (with the exception of CONTAM), and the normative allowance that can be made for such responses before a hypothesis of psychopathology is entertained runs significantly higher for adolescent than adult subjects.

# References

- Ames, L. B., Metraux, R. W., & Walker, R. N. *Adolescent Rorschach responses*. New York: Brunner/Mazel, 1971.
- Blatt, S. J., & Ritzler, B. A. Thought disorder and boundary disturbances in psychosis. *Journal of Consulting and Clinical Psychology*, 1974, 42, 370-381.
- Bohm, E. *Rorschach test diagnosis*. New York: Grune & Stratton, 1958.
- Cohen, I., Fliegelman, S., Gluck, Z., & Kelman, D. Study of early differentiation between schizophrenia and psychotic manifestations in adolescence. *Israel Annals of Psychiatry and Related Disciplines*, 1970, 8, 163-172.
- Exner, J. E. *The Rorschach: A comprehensive system*. New York: Wiley, 1974.
- Exner, J. E. *The Rorschach: A comprehensive system. Vol. II. Current research and advanced interpretation*. New York: Wiley, in press.
- Exner, J. E., Weiner, I. B., & Schuyler, W. A. *Rorschach workbook for the comprehensive system*. New York: Rorschach Workshops, 1976.
- Friedman, H. Perceptual regression in schizophrenia. *Journal of Projective Techniques*, 1953, 17, 171-185.
- Holt, R. R. Artistic creativity and Rorschach measures of adaptive regression. In B. Klopfer, M. M. Meyer, & F. B. Brawer (Eds.), *Developments in the Rorschach technique*. Vol. III. New York: Harcourt Brace Jovanovich, 1970.
- Holt, R. R. A method for assessing primary process manifestations and their control in Rorschach responses. In M. A. Rickers-Ovsiankina (Ed.), *Rorschach psychology* (2nd ed.). New York: Krieger, 1977.
- Pope, B., & Jensen, A. R. The Rorschach as an index of pathological thinking. *Journal of Projective Techniques*, 1957, 21, 54-62.
- Powers, W. T., & Hamlin, R. M. Relationship between diagnostic category and deviant verbalization on the Rorschach. *Journal of Consulting Psychology*, 1955, 19, 120-125.
- Quinlan, D. M., & Harrow, M. Boundary disturbances in schizophrenia. *Journal of Abnormal Psychology*, 1974, 83, 533-541.
- Quirk, D. A., Quarrington, M., Neiger, S., & Slemmon, A. G. The performance of acute psychotic patients on the index of pathological thinking and on selected signs of idiosyncrasy on the Rorschach. *Journal of Projective Techniques*, 1962, 26, 431-441.
- Rapaport, D., Gill, M., & Schafer, R. *Diagnostic psychological testing* (Rev. ed.). New York: International Universities Press, 1968.
- Rorschach, H. *Psychodiagnostics*. Berne: Hans Huber, 1942. (Originally published, 1921.)
- Schimek, J. G. Some developmental aspects of primary process manifestations on the Rorschach. *Journal of Personality Assessment*, 1974, 38, 226-229.
- Silverman, L. N., Lapkin, B., & Rosenbaum, I. S. Manifestations of primary process thinking in schizophrenia. *Journal of Projective Techniques*, 1962, 26, 117-127.
- Watkins, J. G., & Stauffacher, J. C. An index of pathological thinking in the Rorschach. *Journal of Projective Techniques*, 1952, 16, 276-286.
- Weiner, I. B. *Psychodiagnosis in schizophrenia*. New York: Wiley, 1966.
- Weiner, I. B. Approaches to Rorschach validation. In M. A. Rickers-Ovsiankina (Ed.), *Rorschach psychology* (2nd ed.). New York: Krieger, 1977.

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## The Nuremberg Mind Revisited: A Quantitative Approach to Nazi Rorschachs

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The Nuremberg Trials focused worldwide attention on 22 major Nazi war criminals. With the notable exceptions of Gestapo Chief Himmler, Propaganda Minister Goebbels, and Hitler himself (all of whom committed suicide), many of the most important Nazi leaders at the end of the war were defendants during the 18-month duration of the Nuremberg Trials. Information necessary for an adequate study of the psychology of the Nazi leadership was almost missed, however. An unsystematic collection of psychiatric interviews was set down in equally unsystematic reports and summaries filled with varying proportions of observation, interpretation, speculation, and conjecture. But fortunately for psychology, the question of the Nuremberg mind can be addressed systematically thanks to the work of Gustave Gilbert, a German-speaking clinical psychologist who was prison psychologist for most of the duration of the Trials. In addition to a series of clinical interviews and frequent, **less formal contacts** with the prisoners, Gilbert administered the Rorschach test to the Nazi leaders. Recently, Gilbert's test results have been published and subjected to detailed clinical interpretation by Florence Miale, an experienced Rorschach specialist and Michael Selzer, a political scientist and author of several books on Jewish affairs (Miale & Selzer, 1975). At the end of their evaluation of 16 of the Nazi Rorschachs (the test results for Doenitz, Eick, Jodl, Ley, Raeder, and Streicher were not available) Miale and Selzer unequivocally conclude that "The Nazis were not psychologically normal or healthy individuals" (Miale & Selzer, 1975, p. 287). With few exceptions, Miale and Selzer describe the Nazi leaders as **vicious psychopaths, opportunistic villains, and morally and emotionally bankrupt bigots** who experienced no real guilt for their instrumental roles in the slaughter

of millions of Jews and other victims of the Nazi terror.

As much as we might want to believe in their conclusions, Miale and Selzer's work is subject to at least three major criticisms. First, they often slip into excesses of speculation and interpretation as illustrated by the following example from the analysis of the Rorschach of Constantin von Neurath:

The two figures on this card (11) are *ordinarily* seen in some kind of relationship of confrontation or conflict.... Here, (In von Neurath's record) the figures are greeting each other. *By default*, we have here an indication of *intense conflict*... and of... *aggressiveness* toward others. (Miale & Selzer, 1975, p. 144, *italics mine*).

While it is not *unusual* for the side figures of Card 11 to be seen in confrontation or conflict, the frequency of such content can hardly be considered *ordinary*, at least in a statistical sense. Furthermore, reasoning that the *absence* of a certain type of content on the Rorschach argues for its *presence* in the personality of the subject is not a convincing demonstration for any except the most fervent Rorschach advocate.

A second criticism, and perhaps the most crucial, is that the interpretations of Miale and Selzer were made with full knowledge of the identities of their subjects. Harrower (1976) presented the same Nazi Rorschachs and Rorschachs of various psychiatric patients and normal individuals to several Rorschach experts who were blind to the identity of the records. The experts were unable to distinguish the Nazi Rorschachs from those of other subjects. Some Nazi records were judged to indicate pathology, others were described as average, non-pathological individuals and still others were described as outstanding, highly effective personalities.

Finally, Miale and Selzer present no Rorschach norms for the few statistical

summaries they make near the end of their book. There is no way to judge if the Nazi scores represent statistically unusual Rorschach performances.

The present study is an attempt at a quantitative analysis of the Nazi Rorschachs to correct the faults cited above: (a) Only quantitative Rorschach scores were used to avoid unduly biased speculative interpretation; (b) the scoring was done blind to the identity of the records; and (c) Rorschachs of psychiatric patients and normal subjects were included for comparison. It is significant to note that Harrower made no attempt to quantify the judgments made by Rorschach experts, and no mention was made of scoring systems or other quantifications used by the experts in their interpretations.

The primary question being addressed by this re-evaluation of the Nazi Rorschachs is the same as that addressed by Miale and Selzer: Were the Nazi leaders relatively "normal" individuals or were they psychotic, psychopathic, or otherwise disturbed?

### *Subjects*

#### *The Nazis*

1. Hans Frank — Minister of Justice
2. Hans Fritzsche — Chief Deputy to Goebbels
3. Walther Funk — Minister of Economics
4. Hermann Goering — Luftwaffe Chief
5. Rudolf Hess — Hitler's secretary
6. Ernst Kaltenbrunner — Chief of concentration camps
7. Wilhelm Keitel — Chief of Staff for Armed Forces
8. Constantin von Neurath — Protector for Bohemia and Moravia
9. Franz von Papen — Vice Chancellor under Hitler
10. Joachim von Ribbentrop — Foreign Minister
11. Alfred Rosenberg — Editor of the main Nazi newspaper
12. Fritz Sauckel — Plenipotentiary General for the Utilization of Labor
13. Hjalmar Schacht — Minister of Economics
14. Baldur von Schirach — Youth Leader of the Third Reich

15. Artur Seyss-Inquart — Governor to occupied Poland, Austria, and The Netherlands

16. Albert Speer — Hitler's chief architect.

#### *Comparison Groups*

Finding appropriate comparison groups for Nazi Rorschachs presents special problems. The first problem is that of age. The mean age of the Nazi prisoners is 53.7, older than most tested samples of psychiatric patients and normals.

The 1930s and 1940s represent the era of Nazi activity. The Rorschachs were administered during the Nuremberg trials in 1946. This introduces the problem of finding a contemporary sample to compare with the Nazi records. A related problem is that the Nazis came from a different cultural environment than would most comparative samples.

Finally, the Nazis were in prison and on trial, most of them for their life, when the Rorschachs were administered. In addition, they all recently had experienced the collapse of the Third Reich, the idealized object of their loyalty and the source of their emotional and material support. Such confinement and recent severe losses might have resulted in increased depression and anxiety which may not have been characteristic of the Nazis' pre-Nuremberg personalities.

To solve most of these comparison problems, Rorschach groups were formed from a historic sample of subjects tested by David Rapaport and his associates to validate and illustrate interpretation principles set forth in his famous text on psychodiagnostic test interpretation (Rapaport, 1946). In his original volumes, Rapaport provided a complete tabulation of formal Rorschach scores for 271 subjects representing many diagnostic categories. By selecting from this sample of Rorschach subjects, controls can be established for most of the problem areas cited above. For instance, a control for age is achieved by selecting subjects 35 years of age or older. The Rapaport subjects were tested in the early 1940s, providing an excellent control for the era in which the tests were administered. Control also can be achieved for



depression and anxiety by selecting patients from diagnostic categories primarily defined by acute symptoms of depression and anxiety.

The Rapaport sample, however, is not a complete answer to the problem of appropriate comparison groups. The most serious problem is that there are no verbatim transcripts available for the Rapaport Rorschachs, which means that tallies of special content areas such as those made by Miale and Selzer can not be made from the Rapaport material. Also, there is a problem with the normal subjects from the Rapaport series. Rapaport himself expressed his dissatisfaction with his "normal" controls (made up of Kansas state troopers) with the following statement:

Clinically, the group as a whole showed characteristics of greater or lesser inhibition, schizoid trends, lack of realideational productivity and healthy affective experience and output. In general, the Rorschach Test results reflect this over-all picture (Rapaport, 1946, p. 393).

In an effort to at least partially solve the remaining comparison problems, the present study includes a second sample of Rorschachs originally obtained for a thought disorder study at the University of Rochester. These records provided verbatim transcripts for content analysis and a nonpsychiatric control group made up of medical students and medical technicians with few observable signs of depressive or schizoid tendencies which characterized the Rapaport state trooper sample. The second comparison sample, of course, is not as well suited for the control of age, era of testing, depression or anxiety.

No attempt was made to control for cultural background. Even if a sample of native German Rorschachs from the 1930s or 1940s could be located, it is doubtful that such a sample would be an adequate control for Nazi influence which permeated German culture at that time. It seemed that the closest control for German culture was to use a criterion score system for psychopathy on the Rorschach which was standardized on a sample of common German criminals tested in the early 1930s (see below).

### *Rapaport Subjects*

Four groups of subjects were formed from the Rapaport data — 16 subjects in each group to match the number of Nazi subjects. The Rapaport groups are Schizophrenics (mean age 41.0 years), Depressed (mean age 49.2), Anxious (mean age 42.2), and Normals (mean age 41.5). The diagnostic criteria are described by Rapaport (1946). All subjects were male.

### *Modern Patients and Normals*

The oldest 16 patients were selected from a sample of verbatim Rorschachs previously collected for a study of thought disorder at the University of Rochester. All patients were tested at some time during the first two weeks of psychiatric hospitalization. The mean age for this group is 39.5. Information for making diagnoses was obtained by the Psychiatric Assessment Interview, a semi-structured interview designed for use in the World Health Organization Pilot Study of Schizophrenia (Strauss & Carpenter, 1972). Diagnoses were made according to the Diagnostic and Statistical Manual III of the American Psychiatric Association. The 16 diagnoses included 4 paranoid schizophrenic, 3 anxious, 3 personality disorder, 2 manic psychosis, 1 psychotic reaction, 1 depression, 1 schizo-affective, and 1 psychotic depression.

The modern normal sample was made up of 9 staff members of a general hospital, 6 medical students from the same hospital, and 1 "normal" Rorschach included in the Miale and Selzer book for purposes of illustration. The mean age of this group is 24.9. All normals were males.

For the analysis of formal scoring categories, the following groups were used: The Nazis, all Rapaport groups, and the modern normals (included to make up for the inadequacies of the Rapaport normals). The content analysis compared the Nazis, the modern patients, and the modern normals. The groups used to assess psychopathic tendencies were the same groups used to evaluate formal scores because the psychopathic criteria were based on formal scores and not on content.

### *Scoring Procedures*

All Rorschachs were administered ac-

cording to the Rapaport instructions (Rapaport, 1946, pp. 94-100). Protocols also were scored according to the following procedures:

### *Formal Scores*

1. Standard Beck scoring system for location, determinants, and content (Beck, Beck, Levitt, & Molish, 1961). Rapaport scores were converted to Beck scores for the Rapaport subjects.

2. Delta Index — a scoring system for thought disorder (Powers & Hamlin, 1955). The Delta Index is a modification of a scoring system developed by Rapaport to measure Rorschach responses typical of schizophrenic subjects. It has been demonstrated (Powers & Hamlin, 1955; Watkins & Stauffacher, 1952) that the Delta Index score significantly distinguishes acutely-disturbed schizophrenics from acutely-disturbed non-schizophrenic patients.

### *Content categories*

1. A tally of various content and stylistic categories identical to those tallied by Miale and Selzer (1975, p. 269). Most of these categories were used by Miale and Selzer to support their basic interpretation that the Nazis were severe psychopaths.

2. Devos Affective Inference Scale (Devos, 1952) — a scoring system for the measurement of projected positive affect and negative affect (hostility, anxiety, and body preoccupation). Using a scoring system derived from psychoanalytic theory, Devos demonstrated that patients show more negative affect and less positive affect than normals. In the present study the Devos scale will be used as an index of affective expression on the Rorschach.

### *Psychopathic Criteria*

Two scales measuring psychopathic tendencies in terms of Rorschach scoring categories (Batcheller, 1941; Dubitscher, 1932). Both authors demonstrated that their Rorschach "signs" significantly differentiated psychopaths from normals. Dubitscher's signs were (a) less than 25 responses, (b)  $W\%$  less than 25%, (c)  $F+$  greater than 75%, (d) less than 2 human movement responses, (e) 5 to 7 pop-

ular responses, and (f)  $D\%$  less than 65%. Batcheller's signs were (a) more than 15 but less than 25 responses, (b)  $W\%$  greater than 30% (at variance with Dubitscher's system), (c) less than 2 human movement responses, (d) more animal than human movement, (e) more color than human movement (extratensive experience balance), (f)  $CF$  (indefinite form color responses) greater than  $F$  (definite form color responses), (g)  $P\%$  (pure form responses) greater than 50%, (h) animal content greater than 50%, and (i) more than 3 anatomy responses. Dubitscher's signs are particularly appropriate for this study because they were based on an assessment of 100 psychopaths in pre-war Germany, corresponding exactly with the rise to power of the Nazi regime. In other words, Dubitscher's signs are a measure of psychopathology as it was defined in 1932, in Germany.

### *Results*

Between-group comparisons were analyzed by a series of one-way analyses of variance comparing the Nazis with the three Rapaport patient groups, the Rapaport state trooper normals and the modern normals. Individual comparisons were conducted by the least squares method (Winer, 1962). Table I is a summary of the means for Beck's traditional scoring categories, the Delta Index thought disorder measure, the Dubitscher and Batcheller psychopathic signs and the Devos Affective Inference scores.

### *Age and Responses*

Table I reveals that the Nazis were significantly older and the modern normals significantly younger than the Rapaport groups. The Rapaport subjects, however, were closer in age to the Nazis than to the young moderns. The results for the number of Rorschach responses show the Nazis with an intermediate number of responses. The depressed patients and the state troopers had significantly fewer responses than the other groups, suggestive of a depressive lack of energy in these subjects. The modern normals had a significantly higher number of responses suggesting greater energy and higher productive motivation.

Table 1

Beck, Delta Index, Psychopathology and Affective Inference Scores

	Nazi	Schiz	Dep	Anx	Normals		F-test
					Rap	Modern	
Age	53.7 <sup>a</sup>	41.0	49.2	42.2	41.5	24.9 <sup>b</sup>	$p < .001$
Responses	20.6	21.4	13.6 <sup>b</sup>	23.7	14.2 <sup>b</sup>	27.8 <sup>a</sup>	$p < .05$
Location							
Whole %	56.4 <sup>a</sup>	35.5	40.4	33.3	45.8	40.7	$p < .05$
Usual Detail %	37.7	43.0	47.8	39.2	45.0	50.3	N.S.
Unusual Detail %	5.9	21.5 <sup>a</sup>	11.8	27.5 <sup>a</sup>	9.2	9.0	$p < .01$
Space Responses	1.0	1.1	1.0	1.9 <sup>a</sup>	0.6	2.3 <sup>a</sup>	$p < .05$
Combination Responses	1.8 <sup>a</sup>	0.1	0.1	0.9	0.5	2.8 <sup>a</sup>	$p < .01$
Determinants							
Pure Form %	47.8 <sup>b</sup>	74.3 <sup>a</sup>	73.0 <sup>a</sup>	71.1 <sup>a</sup>	60.6	59.1	$p < .01$
Definite Form %	88.1	84.6	87.4	93.6	87.9	86.3	N.S.
F+ % (Pure Form Responses)	73.8	59.2 <sup>b</sup>	70.9	70.4	69.6	77.4	$p < .05$
F+ % (Definite Form Responses)	77.1	62.5 <sup>b</sup>	73.6	74.3	74.9	77.8	$p < .01$
M	2.8	1.0 <sup>b</sup>	0.7 <sup>b</sup>	2.3	1.1 <sup>b</sup>	3.8 <sup>a</sup>	$p < .05$
SUM C	3.1	2.8	1.0 <sup>b</sup>	1.6	1.5	4.2 <sup>a</sup>	$p < .05$
Experience Balance (M/SUM C)	0.90	0.36 <sup>b</sup>	0.70	1.44 <sup>a</sup>	0.73	0.90	$p < .01$
Shading %	24.2 <sup>a</sup>	10.4	11.7	9.9	11.3	9.1	$p < .001$
Content							
Animal %	46.0	45.9	46.6	47.6	53.4	37.5	N.S.
Human %	9.6 <sup>b</sup>	12.2	14.9	10.4 <sup>b</sup>	12.9	13.0	$p < .05$
Object %	7.9	1.8 <sup>b</sup>	3.4 <sup>b</sup>	10.4 <sup>a</sup>	2.8 <sup>b</sup>	11.9 <sup>a</sup>	$p < .01$
Other Content %	36.5	41.5	35.1	31.6	30.9	37.6	N.S.
Popular %	31.7	27.3	36.1	33.6	34.2	21.1 <sup>b</sup>	$p < .01$
Delta Index %	12.5	23.3 <sup>a</sup>	6.6 <sup>b</sup>	4.6 <sup>b</sup>	1.4 <sup>b</sup>	11.6	$p < .001$
Psychopathy Measures							
Dubitscher Syst. (6 Signs Max.)	3.1	3.0	3.2	2.4 <sup>b</sup>	3.2	2.1 <sup>b</sup>	$p < .05$
Batcheller Syst. (9 Signs Max.)	3.6	3.7	3.8	2.8 <sup>b</sup>	3.8	2.2 <sup>b</sup>	$p < .05$

Table 1 (cont'd)

	Nazi	Modern Normals	Modern Patients	F-test
Affective Inference				
Positive Emotional Content	32.8 <sup>a</sup>	20.9	22.8	$p < .01$
Negative Emotional Content	44.2	43.7	41.8	N.S.
Neutral (No Affect)	17.6 <sup>b</sup>	29.7	29.4	$p < .01$

<sup>a</sup> Significantly *higher* than other means.

<sup>b</sup> Significantly *lower* than other means.

**Beck location.** The Nazis differed from the other groups by giving a significantly higher percentage of whole responses. They also differed from all groups except the modern normals in producing a higher number of combination responses. These results suggest an ambitious, integrative style on the part of the Nazis — a striving to make sense out of the whole picture and concern with the way the various elements of experience fit together. The Nazis did not show a high number of space responses, indicating that they did not show the independent, oppositional reversal of figure and ground which was evident in the responding of the anxious patients (neurotic negativism?) and the modern normals (self-assertive rebellion?).

**Beck determinants.** Table 1 shows that the Nazis rather dramatically differed from the other groups by showing a significantly lower percentage of responses determined by form alone (pure form %). This indicates that the Nazis used other determinants (movement, shading, and color) more frequently than the other groups, once again suggesting an alert, integrative style to make sense out of the nuances of experience.

Form level scores provide estimates of severity of pathology and basic ego strength. Only the schizophrenics showed a significant decrease in the form level per-

cent. The Nazi records did not show a decrement in form level, indicating intact ego functioning and little evidence of severe disturbance.

The Nazi experience balance scores ( $M/\text{Sum } C$ ) indicate a balanced, dilated use of color and human movement, suggesting active and well-integrated introversive ( $M$ ) and extratensive ( $\text{Sum } C$ ) response tendencies. This balance also was reflected in the performance of the modern normals. The other groups either showed an imbalance (schizophrenics in the extratensive direction and anxious patients in the introversive direction) or a coarctated use of color and human movement as determinants (depressed patients and Rapaport normals).

The Nazis showed a significantly higher percentage of shading responses (achromatic color, texture and vista) than the other groups. This suggests that if the Nazis gave vent to depression and anxiety in their Rorschachs, such expression was done in a more active and integrated manner than shown by depressed and anxious patients.

**Beck content.** In the content categories, Nazis were distinguished only by a significantly low percentage of human responses. In the absence of any other indication of severe psychopathology, the low human percent stands out as a suggestion of an inability to empathize with



other humans. It also suggests the Nazis may have had an incomplete sense of their own identities as human beings. The differences are not large in this category, however, suggesting that this deficit is only a trend and not an outstanding pathognomonic sign of a deficit in the Nazis' human relations. It also should be noted that although the Nazis had a lower human percent, their human movement scores were high, indicating that when a Nazi gave a human response, it was likely to involve movement. It may be that what we are observing in the Nazis' human responses on the Rorschach is a potential for empathy which is constricted and not fully realized.

Results for other content categories reveal significantly lower object percent for schizophrenics, depressed patients and state troopers. Modern normals also showed a significantly low percentage of popular responses, suggesting that this group was more original and creative than the other subjects. Although the Nazis gave evidence of considerable activity and integration, they did not produce scores indicative of high creativity.

*Delta Index.* This measure of thought disorder yielded results showing schizophrenics with a significantly high score of 23.3%, placing this group in the psychotic range established by previous studies (Powers & Hamlin, 1955; Watkins & Stauffacher, 1952). The Nazis shared an intermediate level with the modern normals. This level is well below even the borderline level (15%) indicated in the studies mentioned above. If any thinking disturbance was being revealed in the Nazi Rorschachs, it was at a very low level — at the most, an indication of occasional eccentricity and mild peculiarity — and not at all indicative of psychosis.

*Psychopathy measures.* Anxious patients and modern normals showed significantly fewer psychopathic signs than the other groups. The Nazis did not score high enough to clearly establish psychopathic trends in the pattern of their Rorschach scores.

*Devos Affective Inference scores.* The Nazis showed a significantly greater tendency to project positive content into their

responses and had a significantly lower percentage of neutral responses. These results suggest that the Nazis, on trial for their lives, gave many more positively-toned responses than would be expected from individuals suffering from despair and hopelessness. This paradoxical tendency to give positive emotional responses in the face of impending disaster suggests a rather inappropriate optimism and/or a desperate use of denial, perhaps in an effort to convince the world of their innocence. It should be noted that the Nazis did not give a higher proportion of negative responses, which in the case of the Devos Affective Inference scoring system means that they did not give unusually high numbers of hostile or anxious responses.

#### *Miale and Selzer content categories*

Table 2 lists most of the content categories specified by Miale and Selzer as indicative of unique Nazi characteristics. Inspection of Table 2 reveals that many of the categories alleged by Miale and Selzer to distinguish Nazis from "normal" human beings failed to do so. The Table does reveal, however, that Nazis were more likely to show concern for status (i.e., giving responses in which status is a predominant feature — e.g., "a king's crown," "a poor man wearing tattered clothes," "a teacher and his pupils").

The Nazis also were more likely to give responses in which the main figure (usually a butterfly or some wild animal) was seen as dead and mounted. Miale and Selzer suggest that such responses reveal the Nazis' particular brand of depression — i.e., a sense of loss of vitality and a feeling that they were being put on display by a triumphant, vengeful world.

Exotic plants were seen more frequently by Nazis who were less likely than the comparison groups to see female figures. Miale and Selzer interpreted these combined tendencies to mean that the Nazis were revealing a poorly integrated and peculiar sense of the feminine aspects of their identities.

The Nazis also rejected responsibility for their responses significantly more often than the comparison groups. This means that the Nazis were more likely to blame the Rorschach test itself, the test-

Table 2  
Miale and Selzer Content Categories  
Nazi and Modern Groups Comparisons

Content Category	Subject Groups		
	Nazis	Patients	Normals
Status <sup>a</sup>	14	7	7
Exotic Plants <sup>a</sup>	12	6	7
Dead, Mounted <sup>a</sup>	10	4	4
Grotesque	9	8	12
Hard, Rough, Cold, Dry	8	6	11
Feelers, Eyes	8	9	13
Marine Animals	8	11	8
Bugs, Insects	8	10	15
Female Figures <sup>a</sup>	7	13	9
Crabs	7	6	12
Chameleon <sup>a</sup>	5	0	0
Rejection of Responsibility <sup>a</sup>	13	11	7
Clarity of Obvious Concepts <sup>a</sup>	8	5	3

<sup>a</sup>Categories showing distinct Nazi characteristics consistent with Miale and Selzer interpretations.

ing situation, or the examiner for any uncertainty or uneasiness they felt about the quality of their responses. The Nazis showed a related tendency by being more likely to place special emphasis on how clearly they perceived common Rorschach responses (e.g., "This looks definitely, and without a doubt, like a butterfly"). Miale and Selzer suggest that the "clarity of obvious concepts" belied a chronic uncertainty in the Nazis who were overly enthusiastic and relieved when they gave responses which were almost entirely free of ambiguity.

Finally, five Nazis gave the eerie re-

sponse of a chameleon which did not appear in a single comparison group protocol.<sup>1</sup> The chameleon is a passive, opportunistic creature that protects itself by blending in with the prevailing color scheme in the environment, much as this group of Nazis may have protected themselves by blending in with the prevailing forces of Nazi Germany. Curiously, 4 of the 5 Nazi prisoners who gave the chameleon response were either acquitted or received relatively light sentences, suggesting that even at Nuremberg they were able to "blend in" enough to prevent total destruction.

#### Discussion

Harrover's collection of blind, clinical assessments of the Nazi Rorschachs suggests that the Nazi leaders at Nuremberg were not unstable individuals. Some

<sup>1</sup> A computerized tally of all Rorschach responses given by 568 medical students at Johns Hopkins Medical School (Thomas, Ross, & Freed, 1964) showed that the chameleon response was given by only 1.7% of the subjects as compared to 31.2% of the Nazis.

showed pathology, but for the most part, Rorschach experts could not differentiate Nazi records from those of normal individuals. Arendt (1964), in her discussion of the personality of Adolph Eichmann, similarly concludes that the evil of the Nazi atrocities came about not in spite of, but because of the "banal," pedestrian normality and blind obedience to authority of Hitler's followers. The Nazis themselves, almost to a man, clung to the defense that they simply were normal victims of circumstances — loyal, well-intentioned and obedient to the perverted wills of their superiors (whoever that conveniently happened to be).

Miale and Selzer claim differently. They conclude that the 16 Nazi leaders — even the relatively benign von Neurath — were perverse psychopaths, men of barely-contained violence who found in the Nazi terrorism and murder an excuse to escape the confines of their strict, but distorted superegos.

The results of the present study indicate a middle ground: (a) The Nazis showed some variation from the normals, but not as much as might have been expected from the discussions of Miale and Selzer; (b) the Nazis were quite different from several types of psychiatric patients — as a group they were not psychotic and their Rorschach scores did not closely resemble those of depressed and anxious nonpsychotic patients; (c) also, their Rorschachs do not seem to fit Arendt's stereotype of the "banal" Nazi. Low pure form percent, a low percentage of responses with neutral affective content and a significant integrative tendency indicate rather lively, colorful personalities.<sup>2</sup>

The Nazis' high percentage of shading responses and frequent mention of dead and mounted animals suggests that they were depressed at Nuremberg, although their Rorschachs indicate more energy (more responses, lower pure form %, more color and human movement) than

depressed patients. The Nazis also gave a significantly high proportion of positive-affect responses, suggesting a rather inappropriate light-heartedness while on trial for their lives. It may be that the high degree of positive content was to some extent forced by the Nazis in an effort to show they were not as evil as the world believed.

Another distinguishing Nazi characteristic as indicated by this quantitative analysis is a significant tendency to integrate areas and qualities of the blot into whole and combination responses. Furthermore, the form level scores indicate that they were reasonably successful in their integrations. Only one exception seems to exist for the preceding interpretation — the Nazis gave a significantly low percentage of human responses and were less likely to see female figures than were psychiatric patients and normals. Although possessing an integrative style, the Nazis seemed to have difficulty integrating human figures, suggesting a deficiency in their ability to empathize with others or to adequately appreciate or express their own human qualities.

The results are equivocal regarding psychopathy and the Nazis. They do not differ from schizophrenics, depressed patients, or state troopers on two scoring systems designed to detect psychopathic profiles, but they scored significantly more in the psychopathic direction than anxious patients and a modern group of young normals. They also were more concerned with status, rejected responsibility more often, and gave more chameleon responses than normals and psychiatric patients. It may be that the Nazis performed on the Rorschach like *successful* psychopaths. That is, showing no severe psychopathic symptoms, but revealing themselves as opportunistic, status-conscious and active — striving to integrate experience, but not showing much creativity. They did what they were told on the Rorschach and put up a pleasant front with a high percentage of positively-toned responses. When the going got tough and they became uncertain about their ideas and actions, they resorted to denying responsibility and blamed the

<sup>2</sup> Much of Arendt's interpretation of the Nazi personality is based on her intensive study of Adolf Eichmann. Eichmann's Rorschach, administered in Israel in 1962, indeed, is a rather banal, commonplace protocol — unlike most of the 16 Nuremberg Rorschachs. Eichmann's Rorschach was not included in this analysis because it has an inadequate inquiry section.



test or the examiner, perhaps in the style of their notorious defensive plea at Nuremberg — "we were only following orders."

The quantitative analysis does not show the Nazis to be impulse-dominated, hostile sadists. It is quite likely that many a Nazi deserved such a description, but the Nazi leaders on trial at Nuremberg, it must be remembered, were not the concentration camp commandant, the SS killer or the military fanatic. They were, for the most part, higher echelon bureaucrats, dedicated to the Nazi cause and obedient to the word of the Fuehrer. None of them, as far as history records, ever dropped a gas pellet, manned a crematory oven, or ordered a firing squad — the Nuremberg Nazis only made such acts possible by attending to the smooth running of the terrible Nazi machine.

### Conclusions

At least two types of errors can be made in Rorschach interpretation. One is that of overinterpretation and excessive inference. Miale and Selzer appear to make such an error in their interpretation of the Nazi Rorschachs. Nevertheless, their work presents a fascinating step-by-step documentation of the Rorschach interpretive process and their furnishing of the complete Nazi Rorschachs is a valuable addition to the archives of Rorschach case studies.

A second common error in Rorschach interpretation is the failure to detect subtle distinctions that represent small, but significant differences in personality style. Harrower's experts, at the disadvantage of not being able to group Nazi Rorschachs together for comparison with other groups of normal Rorschachs, seemed to have failed to detect overall differences between Nazi, normal, and patient Rorschachs that become apparent when formal scoring procedures are used in conjunction with statistical analysis.

The psychology of the Nazi leaders as illustrated by their Rorschach protocols will continue to be an intriguing study as clinicians attempt to understand the Nazi personality. This quantitative analysis indicates that we cannot be satisfied with Miale and Selzer's interpretation of the

Nazis as highly disturbed individuals at least in the psychiatric sense. At the same time, we should not accept Harrower's conclusion that the Nazis are no different from the man next door.

### References

- Arendt, H. *Eichmann in Jerusalem: A report on the banality of evil.* (Rev. ed.) McGraw-Hill: New York, 1964.
- Batcheller, D. The use of the Rorschach method in a large modern prison. Paper read at the South-eastern Rorschach Conference, Summer, 1941.
- As reported in Lindner, R. The Rorschach test and the diagnosis of psychopathic personality. *Journal of Criminal Psychopathology*, 1941, 5, 69-93.
- Beck, S., Beck, A., Levitt, E., & Molish, H. *Rorschach's test: I. Basic processes.* Grune & Stratton: New York, 1961.
- Devos, G. A quantitative approach to affective symbolism in Rorschach responses. *Journal of Projective Techniques*, 1952, 16, 133-150.
- Dubitscher, F. Der Rorschache Formdeuterversuch bei erwachsenen Psychopaten sowie Psychopathischer und schwachsinnigen Kindern. *Ztsch. ges. Neur. und Psychiat.*, 1932, 142, 129-158.
- Harrower, M. Rorschach records of the Nazi war criminals. An experimental study after thirty years. *Journal of Personality Assessment*, 1976, 40, 341-351.
- Miale, F., & Selzer, M. *The Nuremberg mind: The psychology of the Nazi leaders.* McGraw-Hill: New York, 1975.
- Powers, W., & Hamlin, R. Relationships between diagnostic category and deviant verbalizations on the Rorschach. *Journal of Consulting Psychology*, 1955, 19, 120-124.
- Rapaport, D. *Diagnostic psychological testing* (Vol. 1) Year Book Publishers: Chicago, 1946.
- Strauss, J., & Carpenter, W. Prediction of outcome in schizophrenia. I. Characteristics of outcome. *Archives of General Psychiatry*, 1972, 27, 739-747.
- Thomas, C., Ross, D., & Freed, I. *An index of Rorschach responses.* Johns Hopkins Press: Baltimore, 1964.
- Watkins, J., & Stauffacher, F. An index of pathological thinking in the Rorschach. *Journal of Projective Techniques*, 1952, 16, 276-286.
- Winer, B. *Statistical principles in experimental design.* McGraw-Hill: New York, 1962.
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## Measurement of Delay of Gratification

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**Summary:** To determine if psychoanalytic and social learning theorists are referring to the same phenomenon when they speak of "delay of gratification", 26 college undergraduates were divided into high and low groups on the basis of their scores on a "money-spending" questionnaire (a social learning measure). The difference between these two groups with respect to Rorschach *M* responses (the psychoanalytic measure) was nonsignificant. It was suggested that psychoanalytic and social learning theorists are probably referring to different phenomena when they speak of "delay of gratification."

"Delay of gratification" has been approached from the perspective of both psychoanalytic and social learning theory. Those working from the psychoanalytic point of view have used Rorschach *M* responses to assess this behavior (Mischel, 1974). On the other hand, social learning theorists have preferred to measure delay by direct behavioral observation or questionnaire (Mischel, 1974). Although both groups claim to be investigating the same phenomenon, the relationship between these different methods of measuring delay is unknown. Indeed, Miller and Karniol (1976a, 1976b) have recently challenged the notion that these groups are studying the same phenomenon. Therefore, it would seem profitable to compare these different assessment procedures to see if they are measuring the same phenomenon.

The sample in this study consisted of 26 college undergraduates. Subjects were administered the Rorschach according to a group procedure that pilot testing had shown to be a reliable and valid way to evaluate *M* responses. Subjects then completed a "money-spending" questionnaire similar to the one used by Stumphauzer (1972) except that \$200 and \$2,000 denominations were added to make it more appropriate for use with college students. The individual who scored the Rorschach protocols was ignorant of the questionnaire scores.

The subjects were divided into two groups at the median of the questionnaire scores. The difference between these two groups with regard to number of *M* responses was nonsignificant (Fisher's Exact Test,  $p > .10$ ). These results suggest that psychoanalytic and social learning theorists are probably referring to different phenomena when they speak of "delay of gratification."

### References

- Miller, D. T., & Karniol, R. The role of rewards in externally and self-imposed delay of gratification. *Journal of Personality and Social Psychology*, 1976, 33, 594-600. (a)
- Miller, D. T., & Karniol, R. Coping strategies and attentional mechanisms in self-imposed and externally-imposed delay situations. *Journal of Personality and Social Psychology*, 1976, 34, 310-316. (b)
- Mischel, W. Processes in delay of gratification. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 7). New York: Academic Press, 1974.
- Stumphauzer, J. S. Increased delay of gratification in young prison inmates through imitation of high-delay peer-models. *Journal of Personality and Social Psychology*, 1972, 21, 10-17.

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## Selected Hand Test Personality Variables Related to Accidents in Female Drivers

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**Summary:** The Hand Test was administered to 170 females ranging in age from 17 to 72 years to determine if specific personality tendencies measured by the Hand Test would be significantly related to incidence of automotive accidents. Results indicated that the personality characteristic associated with DIR was significantly correlated with accidents, but that relationships differed somewhat with age.

Though several studies (e.g., Kunce, 1967; Shaw, 1965; Shaw & Sichel, 1961) have reported significant relationships between personality "traits" of the individual and the incidence of automotive and, or industrial accident involvement, the overall use of various psychological and personality tests has met with little success in the prediction of accident involvement (see Goldstein, 1962 for review).

One reason why the literature is almost void of research showing significant relationships between the "intrinsic" characteristics or abilities of the individual and accident involvement may be due to the fact that previous investigations have lacked a theoretical basis for the selection of their predictors (Barrett, Alexander, & Forbes, 1977).

The Hand Test (Wagner, 1962), a projective technique, was designed to assess behavioral tendencies, and has often been used to predict assertiveness and aggression. This test has been used to successfully predict "overt" aggressive behavior with a number of diverse clinical groups (e.g., Azcarate & Gutierrez, 1969; Breidenbaugh, Brozovich, & Matheson, 1969; Brodsky & Brodsky, 1967; Wagner & Hawkins, 1964; Wagner & Medvedeff, 1962).

Intuitively, it would seem that individuals who have directive and aggressive personalities would tend to get involved in more automobile accidents than individuals who are interpersonally more congenial, since they have less concern for the rights and privileges of others in var-

ious human relation situations and one such situation could easily be behind the wheel of an automobile. Therefore, the purpose of the present investigation was to determine if the three indicants of aggressive-directive behavior on the Hand Test, i.e., Direction, Aggression, and the Acting-Out-Score, would be significantly related to accidents in a sample of female drivers.

### Method

#### Subjects

Participants were 175 female volunteers ranging in age from 17 to 72 years recruited from a large midwestern urban region.

They were part of ongoing research projects at the University of Akron, and Hand Test normative data for these subjects has already been reported in Panek, Wagner, and Avolio (1978). There were 25 subjects for each eight-year period (e.g., 17-24; 25-32; 33-40; etc.). All subjects were in good or excellent health, and were within normal ranges of hearing and vision.

#### Procedure

All subjects were given the Hand Test (Wagner, 1962) and a self-report driving questionnaire. A self-report questionnaire was used because as indicated by McGuire (1973), self-reports of accidents and moving violations are often more reliable and valid than police, state, or insurance data. All Hand Test protocols were administered and scored by the same experimenter (PEP).

### Results

Since five subjects had to be eliminated due to incomplete accident data, analyses reported in the paper are based on 170 subjects.

The mean number of accidents during the past five years for the entire sample was ( $M = .41$ ,  $SD = .80$ ).

Results indicated that for the entire sample there were significant correlations between accidents and the Hand Test variables of Direction ( $r = .23$ ,  $p < .01$ ) and the Acting-Out-Score ( $r = .16$ ,  $p < .05$ ). The correlation between Aggression and accidents was nonsignificant.

Since previous investigations (e.g., Barrett, Mihal, Panek, Sterns, & Alexander, 1977) have found significant differences with regard to information-processing variables and accidents between older and younger drivers, it was decided to conduct a further analysis by dividing the overall sample into two groups, young (17-48 years) and old (49-72 years) drivers to determine if there would be differences between the Hand Test variables and accidents for the groups. The young drivers ( $n = 99$ ) had a mean age of 31.81 ( $SD = 8.95$ ), and the mean accidents during the past five years was ( $M = .41$ ,  $SD = .69$ ); for the older drivers ( $n = 71$ ) the mean age was 59.90 ( $SD = 6.99$ ), and mean accidents for the past five years was ( $M = .41$ ,  $SD = .95$ ). The mean number of accidents during the past five years was not significantly different between the groups.

For the young drivers' group an additional significant correlation was found between the Hand Test variable of Average-Initial Reaction Time ( $r = -.27$ ,  $p < .01$ ) and total accidents for the past five years.

Results for the old drivers' group indicated there were significant correlations between the Hand Test variables of Direction ( $r = .41$ ,  $p .001$ ), Acting-Out-Score ( $r = .37$ ,  $p < .01$ ) and total accidents for the past five years.

An additional analysis was performed in which Hand Test variables were combined in a multiple regression with accidents. Results of this analysis indicated that the multiple  $R$ s failed to increase

the level of prediction significantly above that of Direction alone.

### Discussion

Although the results of the present investigation should be considered tentative, it appears that certain personality characteristics are moderately but significantly related to driving behavior. In addition, these factors appear to vary with age.

Concerning the overall sample, the results suggest that individuals who would be considered directive, i.e., predisposed to dominant and assertive behavior, tend to have more accidents than individuals who are not. Interestingly, aggression responses were *not* found to be significantly related to accidents; therefore, it would appear that it is the directive component of the Acting-Out-Score which is of major consequence for the prediction of accident involvement, at least in females. That is, it is not hostility but the tendency to influence and manipulate others which bears on motor accidents.

Different personality characteristics appear to be related to accidents as a function of age. Results indicated that for younger drivers a characteristic that could be labeled "impulsivity" (low AIRT) appears to be significantly related to accidents, but this was not so for the older sample.

For older drivers, it is the propensity to be directive that is significantly related to accidents. As found previously by Barrett et al. (1977), there were different factors related to accidents as a function of the driver's age.

The results indicate that dominant, impulsive people tend to have accidents. In addition, the results suggest that the Hand Test might be a useful instrument for identifying those individuals with personality predispositions toward accidents, particularly when used in conjunction with other predictors such as preceptual-motor integrity.

Further research should attempt to validate the findings of the present investigation as well as determine if these same relationships would be obtained in different samples and types of drivers. It would

be especially interesting to see whether the DIR variable is also predictive for males.

# References

- Azcarate, E., & Gutierrez, M. Differences of institutional adjustment of juvenile delinquents with the Hand Test. *Journal of Clinical Psychology*, 1969, 25, 200-202.
- Barrett, G. V., Alexander, R. A., & Forbes, J. B. Analysis of performance measures and training requirements for decision-making in emergency situations. *JSAS Catalog of Selected Documents in Psychology*, 1977 (in press).
- Barrett, G. V., Mihal, W. L., Panek, P. E., Sterns, H. L., & Alexander, R. A. Information processing skills predictive of accident involvement for younger and older commercial drivers. *Industrial Gerontology*, 1977, 4, 173-182.
- Breidenbaugh, B., Brozovich, R., & Matheson, L. The Hand Test and other aggression indicators in emotionally disturbed children. *Journal of Personality Assessment*, 1974, 38, 332-334.
- Brodsky, S. L., & Brodsky, A. M. Hand Test indicators of antisocial behavior. *Journal of Projective Techniques & Personality Assessment*, 1967, 31, 36-39.
- Goldstein, L. G. *Human variables in traffic accidents: A digest of research and selected bibliography*. Washington, D. C.: National Academy of Sciences, National Research Council, 1962.
- Kunze, J. T. Vocational interests and accident proneness. *Journal of Applied Psychology*, 1967, 51, 223-225.
- McGuire, F. L. The nature of bias in official accident and violation records. *Journal of Applied Psychology*, 1973, 57, 300-305.
- Panek, P. E., Wagner, E. E., & Avolio, B. J. Differences in Hand Test responses of healthy females across the life-span. *Journal of Personality Assessment*, 1978, 42, 139-142.
- Shaw, L. The practical use of projective personality tests as accident predictors. *Traffic Safety Research Review*, 1965, 9, 34-72.
- Shaw, L., & Sichel, H. S. The reduction of accidents in a transport company by the determination of the accident liability of individual drivers. *Traffic Safety Research Review*, 1961, 5, 2-12.
- Wagner, E. E. *Hand Test: Manual for administration, scoring and interpretation*. Springfield: Thomas, 1962.
- Wagner, E. E., & Hawkins, R. Differentiation of assaultive delinquents with the Hand Test. *Journal of Projective Techniques & Personality Assessment*, 1964, 28, 363-365.
- Wagner, E. E., & Medvedeff, E. Differentiation of aggressive behavior of institutionalized schizophrenics with the Hand Test. *Journal of Projective Techniques*, 1962, 1, 111-113.

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## Toward an Objective Evaluation Procedure of the Kinetic Family Drawings (KFD)

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**Summary:** The feasibility of employing a quantitative scoring procedure for evaluating the Kinetic Family Drawings (KFD) was examined. A quantitative scoring procedure was developed from the clinical hypotheses Burns and Kaufman (1970, 1972) to score 21 measurable KFD styles, actions, and characteristics. The scoring procedure was employed to evaluate 116 KFDs obtained from four groups of boys to determine the effectiveness of the procedure to differentiate among two levels of emotional adjustment and the two levels of age. The results indicated that four of seven sets of extracted component scores significantly differed between the emotionally well-adjusted and the emotionally disturbed groups. One set of component scores significantly differed between the younger and the older groups, while two sets of component scores did not differ among any of the four groups. The KFD total score was found to differ significantly only between the young emotionally disturbed and the young emotionally well-adjusted groups. It was concluded that a quantitative scoring procedure for the KFD is feasible.

Recently a promising new projective drawing technique was introduced by Burns and Kaufman (1970, 1972). Viewing emotional problems in children as stemming from the disturbances in interpersonal, generally family, relationships, these authors have developed a procedure known as the Kinetic Family Drawings (KFD) which provides a basis for examining the interpersonal dynamics of the child. After 12 years of carefully studying and analyzing these family drawings, Burns and Kaufman (1972) reported the clinical significance of certain characteristics, actions, styles, and symbols found in them.

KFD characteristics, according to Burns and Kaufman (1972), are static qualities commonly found in the drawings. Pencil erasures (reflecting ambivalence) and hyper-extended arms (reflecting the need to control the environment) are typical examples of KFD characteristics. Actions in KFDs are movements of energy between people and objects. According to Burns and Kaufman, certain objects and depicted actions are said to have energy invested in them. These "fields of force" reflect such things as inhibition, anger, competition, and need for affec-

tion, and are found in actions associated with certain objects such as balls, burning fires, lights, etc. Styles, a third dimension of interpretation, refers to certain approaches to the drawing of KFDs that are considered indicative of defensiveness and emotional disturbance. Compartmentalization (intentionally separating family members by the use of lining) and Edged Placement (rectangularly placing all of the family figures on the perimeter of the page) are examples of what Burns and Kaufman refer to as styles. Symbols, the final aspect of interpretative significance in Burns and Kaufman's KFDs, follow from a traditional psychoanalytic perspective. However, the authors are less emphatic in assigning hard and fast meanings to KFD symbols than they are in the characteristics, actions, and styles.

Unlike most previous projective drawings, the KFD provides information that can permit the unique and valuable investigation of the personal *and* interpersonal perspectives of the child. However, the KFD, while promising, has two general shortcomings.

First, Burns and Kaufman (1970, 1972) offer no empirical validity for their hypotheses, but rather rely on the presentation of clinical cases which have been subjectively interpreted. Only two empirical studies have been reported with the KFD. O'Brian and Patton (1974) attempted to

A longer version of this paper was presented to the Spring Convention, American Association of Psychiatric Services for Children, Richmond, Virginia, May, 1976.

Table 1

Distribution of Groups of Subjects by Emotional Adjustment and Age

Age	Emotional Adjustment			
	Well Adjusted (EA)	<i>n</i>	Disturbed (ED)	<i>n</i>
Young (6-8 years)	YEA	30	YED	28
Older (12-14 years)	OEA	30	OED	28

develop an objective scoring system via a step-wise regression analysis. However, their study was conducted prior to the release of Burns and Kaufman's (1972) *Actions, Styles, and Symbols in Kinetic-Family-Drawings (KFD): An Interpretive Manual*, and thus did not examine all of the variables considered significant by Burns and Kaufman. Also, O'Brian and Patton did not include emotionally disturbed children in their sample, further reducing the utility of their study. McPhee and Wegner (1976) examined differences in KFD styles between "normal" and emotionally disturbed children but failed to specifically control for the effects of age, intelligence, and other quantifiable aspects of the KFD such as characteristics and actions. A second shortcoming of the KFD technique of Burns and Kaufman (1972) is that no normative data are given with respect to any developmental differences in children, in spite of the overwhelming evidence that graphic abilities are directly related to age and intelligence (Goodenough, 1926; Koppitz, 1968).

The purpose of the present study was to test the feasibility of employing a quantitative scoring procedure for evaluating KFD protocols. By developing such a procedure, the issues of both normative information and empirical validity could be explored. For these purposes, an empirically-based KFD Scoring Guide was developed by the present author using 21 measurable KFD characteristics, actions, and styles derived from the hypotheses of Burns and Kaufman (1972) and the graphic scoring procedures of McPhee (1974)<sup>1</sup>.

Because of Burns and Kaufman's contention that the interpretation of KFD symbols is highly variable, no attempt was made to include symbols in the quantification.

The scoring procedure was employed to evaluate KFDs obtained from two clinically different groups of children to determine the ability of the procedure to differentiate between the two groups. The clinical groups participating in the study were boys judged to be either emotionally well adjusted or emotionally disturbed. Further, the KFDs of each group were obtained from two separate age ranges within each group to examine the sensitivity of the procedure to age differences. That is, each group was divided into younger and older subsamples, yielding four groups of subjects (i.e., young emotionally well adjusted [YEA], young emotionally disturbed [YED], older emotionally well adjusted [OEA], older emotionally disturbed [OED]). These groups are presented in Table 1.

### Method

#### Subjects and Materials

The subjects participating in the present study were 116 boys, ages 6 through 8, and 12 through 14 who were diagnosed as either emotionally well adjusted or emotionally disturbed. For each pro-

<sup>1</sup> See NAPS document No. 3192. Order from NAPS c/o Microfiche Publications, P. O. Box 3513, Grand Central Station, New York, N. Y. 10017. Remit in advance for each NAPS number. Institutions and organizations may use purchase orders however, there is a billing charge of \$5.00 for this service. Make checks payable to Microfiche Publications. Photocopies are \$5.00. Microfiche are \$3.00 each. Outside the United States and Canada, postage is \$3.00 for a photocopy and \$1.00 for a fiche.

subject's subject scores were obtained on the Peabody Picture Vocabulary Test (PPVT) (Farr, 1968) and the Missouri Children's Behavior Check List (MCBC) (New, Pearson, Sirois, & Owen, 1969). Based on the range and normal IQ scores on the PPVT, as well as their performance on the MCBC, the boys were selected for membership in one of the four groups. Normal IQ was defined as falling within the range of 80 to 120.

The four well-adjusted boys were selected from a public school system in Northeast Georgia. For one reason, in the ED groups each boy was referred by his teacher as being emotionally disturbed, scored within the normal IQ range on the PPVT, obtained normal to well-adjusted scores on the indicators of Aggression, Inhibition, Anxiety Level, and Sociability on the MCBC, and had never received nor been referred for special services for emotional or learning problems.

The four emotionally disturbed boys were selected from four units of the Georgia Psychological System, a statewide program for emotionally disturbed children which accepts for treatment boys who are diagnosed as emotionally disturbed by a Board-certified psychiatrist. For one reason, in this ED group each boy, in addition to the psychological diagnosis of emotional disturbance, scored within the normal IQ range on the PPVT and received scores within one standard deviation of the mean for psychosocial functioning on two of the above four indicators of the MCBC.

#### Procedure

Each subject was referred to provide a KFD drawing to the psychologist at the Georgia Psychological System (Farr, 1971, p. 51). The drawing procedure was terminated when the subject indicated that he was finished and when the psychologist had completed the final description of the drawing and had obtained the characters of the drawing as described in the standard description.

Each drawing so obtained was then scored according to the KFD Scoring Guide. Interscorer reliabilities of the 21 scoring variables on the guide were computed on a random 25% of the data sam-

ple of KFDs. The average agreement between two trained scorers was 94%, with a range of 81%-100%.

The original scores obtained using the KFD Scoring Guide with the 116 KFD protocols was transformed to a  $20 \times 20$  "within groups" product moment correlation matrix of variables common to the four groups. One variable, Folding Compartmentalization, was deleted from the study since no subject revealed that style in his KFD protocol. To obtain a smaller and experimentally more manageable number of variables, a principal components analysis of the intercorrelation matrix was performed. Three criteria were considered jointly in determining the number of components to be extracted: (a) the scree test, (b) the number of components yielding Eigenvalues greater than unity, and (c) the component solution providing the most easily interpretable structure for use in subsequent analyses.

The results of jointly considering the above criteria yielded a component solution that was employed to generate component scores for each component. The component scores were then analyzed for each extracted component via a  $2 \times 2$  parametric factorial ANOVA. KFD total scores were also analyzed via a  $2 \times 2$  parametric factorial ANOVA. In each case, the independent variables in the ANOVA consisted of two levels of age and two levels of emotional adjustment. In the ANOVA procedures, the .01 level of probability was used as a criterion of significance.

#### Results

The data obtained from the "within groups" intercorrelation matrix of scoring variables on the KFD were reduced by a principal components procedure. Seven components, accounting for 51% of the total variance, were extracted and rotated via the varimax method. The component loadings of the 20 KFD scoring variables on the seven components are presented in Table 2.

Scores on the seven components were obtained for each subject using the formula given by Farr (1971, p. 97). For each component, a  $2 \times 2$  ANOVA procedure

Table 2

Richard C. Anderson, Editor, *Journal of Management Education*, Dearborn, MI

Variable	Component						
	I	II	III	IV	V	VI	VII
1 Physical Proximity	-.07	.01	-.26	-.14	-.07	.00	.00
2 Barriers	-.09	.01	-.08	-.09	-.07	-.27	.01
3 Relative Height	.00	.10	-.08	-.11	-.02	-.14	-.41
4 Force Fields	-.03	-.07	.07	.11	.06	-.08	.11
5 Frasures	-.07	.00	-.16	-.24	.16	.02	-.20
6 Arm Extensions	-.18	.08	.16	.00	.06	.12	-.48
7 Description	-.10	.01	.04	-.20	.02	.12	-.20
8 Satety of Figure	.26	-.08	.16	.00	.00	.00	-.13
9 Body Parts	-.20	.00	.18	.12	.10	.10	-.41
10 Rotations	-.07	-.06	.10	.00	.00	.00	-.10
11 Shading	.01	.00	.00	.06	.00	.00	.13
12 Compartment.	-.00	.14	.00	.00	.00	.14	.00
13 Underlining Figures	.00	.07	.00	.00	.12	.00	.11
14 Bottom Lining	.00	-.04	.00	.00	.00	.00	.11
15 Top Lining	.00	-.10	.00	.00	.00	.00	.11
16 Encapsulation	.00	.00	.00	.00	.00	.00	.00
17 Edged Placement	.00	-.00	.00	.00	.00	.00	.00
18 Evasions	.00	.30	.00	.00	.00	.00	.00
19 No of Members	.00	.00	.00	.00	.00	.00	.00
20 Back Placement	.00	.00	.00	.00	.00	.00	.00
Eigenvalues	1.00	.59	1.00	1.00	1.00	1.00	1.00

was performed employing the

Figure 1. Main Effect of Temperature on Component III



Figures, Encapsulation, and Evasions. Similarly, a significant main effect for the Component IV scores were obtained for adjustment,  $F(1,112) = 216.16, p < .01$ , but no significant effects were obtained for age or interaction. The variables loading most highly on Component IV were Physical Proximity, Description of Action, and Number of Household Members. On the Component V scores, a significant main effect was obtained for age,  $F(1,112) = 7.81, p < .01$ , but no significant effects were obtained for adjustment or the interaction. The variables loading most highly on Component V were Force Fields, Arm Extensions, Safety of Figures, Shading, and Compartmentalization. A significant main effect was found from the analysis of variance of the Component VI scores for adjustment,  $F(1,112) = 17.01, p < .01$ , but no significant effects were obtained for age or the interaction of age or adjustment. The variables loading most highly on Component VI were Body Parts, Rotation, and Edged Placement. For the Component VII scores no significant main or interaction effects were obtained. The variables loading most highly on Component VII were Relative Height, Erasures, Description of Action, and Number of Household Members.

Likewise, the total scores of the KFD protocols were analyzed via a  $2 \times 2$  ANOVA. In that analysis, a significant effect was obtained for the interaction of age and adjustment,  $F(1,112) = 7.40, p < .01$ , along with a significant main effect for adjustment,  $F(1,112) = 17.68, p < .01$ . No significant main effect was obtained for age. Examination of the cell means indicated that the KFD total scores varied as a function of emotional adjustment in the young groups but not for the older groups. The young emotionally well-adjusted subjects obtained significantly lower total scores than the older well-adjusted or either of the ID groups.

A summary of the results is displayed in Table 3. Of the components with component scores that significantly differentiated among the four groups, Components I, III, IV, and VI were associated with significant differences between the well-adjusted and the emotionally dis-

turbed groups, while Component V was associated with significant differences between the young and older groups. The KFD total scores significantly differentiated the young emotionally well-adjusted from the young emotionally disturbed.

### Discussion

The results generally support the feasibility of employing a quantitative scoring procedure with the KFD to differentiate emotionally well-adjusted from emotionally disturbed boys. The results of the analyses of variance of the scores derived from Components I, III, IV, and VI indicate that the variables associated with those component scores hold promise as discriminators of emotional adjustment. Specifically, the results indicated that, in linear combination with other variables, 11 variables, (i.e., Physical Proximity, Barriers, Description of Action, Body Parts, Rotations, Bottom Lining, Top Lining, Encapsulation, Edged Placement, Evasions, and Number of Household Members) differentiated the emotionally well-adjusted from the emotionally disturbed boys, in directions that are consistent with the hypotheses developed by Burns and Kaufman (1972).

The results also indicated that the quantitative scoring procedure, was, in part, sensitive to age differences between the young and older groups. The analysis of variance of the scores derived from Component V resulted in significant effects for age, with the older groups scoring higher than the younger groups. Of the five variables that loaded highly on Component V, three of the variables (i.e., Force Fields, Arm Extensions, and Compartmentalization) only loaded significantly on one component and therefore differentiated between only the age groups. The two other variables, (i.e., Safety of Figures and Shading) also loaded highly on Components I and III respectively, and these components differentiated between adjustment. Thus, in the present study, Force Fields, Arm Extensions, and Compartmentalization were not found to differentiate between the emotionally well-adjusted and the emotionally disturbed groups, and there-

Table 3

Summary of Component Analysis and Analysis of Variance

Variable	Component on Which Variable Loaded	Groups Differentiated by Component Scores	Direction of Difference
1. Physical Proximity	IV	Adjustment	EA < ED
2. Barriers	III	Adjustment	EA < ED
3. Relative Height	VII		
4. Force Fields	II, V	Age	Young > Older
5. Erasures	VII		
6. Arm Extensions	V	Age	Young > Older
7. Description of Action	II, III, IV, VII	Adjustment	EA < ED
8. Safety of Figures	III, V	Adjustment, Age	EA < ED Young < Older
9. Body Parts	II, VI	Adjustment	EA < ED
10. Rotations	VI	Adjustment	EA < ED
11. Shading	I, V	Adjustment, Age	EA < ED Young < Older
12. Compartmentalization	V	Age	Young < Older
13. Underlining Figures	II		
14. Bottom Lining	I	Adjustment	EA < ED
15. Top Lining	I	Adjustment	EA < ED
16. Encapsulation	III	Adjustment	EA < ED
17. Edged Placement	VI	Adjustment	EA < ED
18. Evasions	II, III, VII	Adjustment	EA < ED
19. Number of Members	IV	Adjustment	EA < ED
20. Back Placement	II		

fore should not be automatically accepted as indicators of emotional disturbance, particularly when scored by the present scoring procedure. The present evidence suggests that these three variables in combination with the other variables of Component V, bear little relationship to emotional adjustment. Safety of Figures and Shading, the remaining variables loading highly on Component V, provided no dif-

ferential information since these variables also loaded on components that differentiated between the emotional well-adjusted and the emotionally disturbed groups. Of the remaining variables, four (i.e., Relative Height, Erasures, Encapsulation, and Back Placement) did not load highly on any of the components which were associated with significant differences among the groups. The

KFD total scores significantly differentiated between the young emotionally well adjusted and the emotionally disturbed but did not differentiate among the three remaining groups.

The findings that scores derived from certain components were sensitive to age differences, while others appeared to be sensitive to both age and adjustment, detracts from the utility of the present quantitative scoring procedure. Also, that the total scores were insensitive to differences in adjustment in the older groups, further underscores the limited effectiveness of the scoring procedure in its present form.

The findings of the present study are generally consistent with the previous research on effectiveness of various scoring procedures used with human figure drawings to differentiate among clinically different groups (e.g., Reznikoff & Tomblin, 1956). While the effectiveness of the KFD quantitative scoring procedure to differentiate between clinically different groups does not provide incontrovertible evidence for its validity, it does add support to the concurrent validity of the KFD. In the present study, clinical groups were defined by scores on the Missouri Children's Behavior Check List (Sines Parker, Sines, & Owen, 1969) and by psychiatric diagnosis. That the KFD scores derived from the quantitative scoring procedure also effectively differentiated the clinical groups is consistent with other studies indicating that the KFD agrees with concurrent psychometric and behavioral data, (e.g., O'Brian & Patton, 1974; Sims, 1974).

The findings of the present study are, however, in contradiction with several of the findings of McPhee and Wegner (1976). In a study examining KFD styles, McPhee and Wegner concluded that the six styles defined by Burns and Kautman (1977) occurred more frequently among emotionally normal children. In the present study, the styles of Bottom Lining, Top Lining, Encapsulation and Edged Placement, in linear combination with other variables, occurred more frequently in the emotionally disturbed than in the emotionally well-adjusted groups.

While it is not entirely clear why the

present study's findings contradict those of McPhee and Wegner, it is possible that the KFD styles appear more often in ED groups when the styles are measured in combination with other variables. Additionally, it is possible that differences in the sample characteristics could account for the differences obtained with respect to styles. That is, McPhee and Wegner compared the KFD's styles with emotionally "normal" children with the KFD styles of emotionally disturbed children, while the present study compared the KFD styles to the emotionally well-adjusted children with those emotionally disturbed.

Finally, that the findings of the present study indicate that scoring system differentiates certain clinical groups does not suggest that the same system will provide reliable diagnostic information in the individual case. In fact, the analysis of the means and standard deviations of the component and total scores in the present study indicate that the scoring procedure employed offers relatively poor clinical discrimination for the individual case and should be used only as a research tool from which more sensitive scoring approaches can be developed.

#### References

- Burns, R. C., & Kaufman, S. H. *Kinetic Family Drawings (KFD): An introduction to understanding children through kinetic drawings*. New York: Brunner Mazel, 1970.
- Burns, R. C., & Kaufman, S. H. *Actions, styles, and symbols in kinetic family drawings (KFD)*. New York: Brunner Mazel, 1972.
- Dunn, L. M. *Peabody Picture Vocabulary Test Manual*. Circle Pines, Minnesota: American Guidance Service, 1965.
- Farr, S. D. Component scores for reduced rank transformed solutions. *American Educational Research Journal*, 1971, 8, 93-104.
- Goodenough, F. L. *Measurement of intelligence by drawings*. Yonkers, N. Y.: World Books, 1926.
- Koppitz, F. M. *Psychological evaluation of children's human figure drawings*. New York: Grune & Stratton, 1968.
- McPhee, J. P. *Empirical evaluation of the Kinetic Family Drawing (KFD) styles as a detector of emotionally disturbed childhood behavior*. Unpublished doctoral dissertation, Boston College, 1974.
- McPhee, J. P., & Wegner, K. W. Kinetic-Family-Drawing styles and emotionally disturbed childhood behavior. *Journal of Personality Assessment*, 1976, 40, 487-491.

- O'Brien, R. P., & Patton, W. F. Development of an objective scoring method for the Kinetic Family Drawing. *Journal of Personality Assessment*, 1974, 38, 156-164.
- Rosenkoff, M., & Lomblen, D. The use of human figure drawings in the diagnosis of organic pathology. *Journal of Consulting Psychology*, 1956, 20, 467-470.
- Sines, C. A. Kinetic Family Drawings and the Family Relations Indicator. *Journal of Clinical Psychology*, 1974, 30, 87-88.
- Sines, J. O., Pauker, J. D., Sines, L. K., & Owen, D. R. Identification of the clinically relevant dimensions of children's behavior. *Journal of Consulting and Clinical Psychology*, 1969, 33, 228-234.

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## MMPI Criteria for Diagnosing Schizophrenia

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**Summary:** An attempt was made to find a combination of MMPI scale relationships which were highly discriminating of schizophrenia. Through the use of a standardized structured interview and a diagnostic system for schizophrenia based on the use of discriminant function analysis with nonpathognomonic symptom combinations, a reliable and valid system was used to establish the criterion diagnosis. Approximately 72% of patients reliably diagnosed as schizophrenics were detected on the MMPI via a set of standard criteria ( $T$  score on  $Sc \geq 80$   $\leq 100$ , total raw score on  $Sc$  consisted of no more than 35%  $K$  items;  $T$  score on  $F \geq 75 \leq 95$ ;  $T$  score on  $Pr \leq Sc$ ). Only 5.5% of nonschizophrenics obtained all these standard criteria on the MMPI. The assets and liabilities of these MMPI criteria to diagnose schizophrenia are discussed.

Attempts to use the MMPI to diagnose schizophrenia via individual scale elevations, especially on  $Sc$ , have proven futile. In their initial presentation, Hathaway and McKinley (1943) reported that this scale by itself was able to distinguish only 60% of observed cases diagnosed schizophrenia. Numerous "false-positives" or nonschizophrenics with elevated  $Sc$  scores occurred. Subsequent investigations as presented by Dahlstrom, Welsh, and Dahlstrom (1975) also showed that the expectation that the clinical diagnosis would correspond to the most salient score in the test profile seldom was supported. Reasons for this failure of  $Sc$  taken independently to diagnose schizophrenia have been documented (Dahlstrom, Welsh, & Dahlstrom, 1972).

Consequently, emphasis shifted from interpretation and diagnosis based on a single high-point scale to a careful examination of more complex patterns of scales in the standard profile. The subsequent approaches ranged from coding of pattern and elevation data (Hathaway & Meehl, 1951) and constructing sets of profile rules (e.g., Henrichs, 1964; Meehl & Dahlstrom, 1960) to using various regression analyses for discriminant functions (e.g., Choynowski, 1966; Dahlstrom & Wahler, 1955; Eichman, 1959; Goldberg, 1965) or other similar formulas for quantitative summarization of the test scores. Unfortunately, these approaches are either quite cumbersome and time-consuming or focus only on

general (e.g., psychosis vs. neurosis vs. character disorder) not specific (e.g., manic-depressive vs. schizophrenia) diagnostic categories (Dahlstrom, et al., 1972, 1975; Graham, 1977).

One critical error source often overlooked in all of the investigations attempting to use the MMPI to diagnose schizophrenia is the validity of the diagnosis of schizophrenia. Feighner, Robins, and Guze (1972) discussed the difficulties involved in arriving at a research definition of schizophrenia, while the unreliability of the psychiatric diagnosis of schizophrenia has been documented thoroughly (Cancro, 1970; Jackson, 1970). *The Diagnostic and Statistical Manual of Mental Disorders (DSM-II)* (American Psychiatric Association, 1968) revised to alleviate some of the vagueness and ambiguity of DSM-I (American Psychiatric Association, 1952) has led to even more controversy regarding objective criteria for the diagnosis of schizophrenia. The inadequacy of DSM-II, especially with regard to its lack of specificity in the definition of terms used to define schizophrenia and its inadequacy as a nomenclature, has been discussed extensively (Jackson, 1969, 1970).

At the time of the development of the MMPI and for the next two decades, Bleuler's (1908, 1950) four general primary symptoms of schizophrenia were used as the primary diagnostic criteria. However, this system has been considered inadequate since it uses imprecise term-

inology, mixes theoretical concepts with observations and because such symptoms also are prevalent to some degree in other physical and psychiatric disorders (Taylor & Heisler, 1971). While initially considered to have some basic validity and explanatory power, Bleuler's concepts now receive little support (Fitzgibbons & Shearn, 1972).

The present investigation attempted to follow Fowler's (1966) suggestion that the diagnosis of schizophrenia via the MMPI occurs only through a combination of scale relationships. All validity and clinical scales were examined as well as several additional MMPI scales that seem to be related to psychosis (e.g., Harris & Lingo, Note 1, subscales on Persecutory Ideas, Lack of Ego Mastery and Bizarre Sensory Experiences) (Graham, 1977). Nevertheless, the focus was on the elevations and relation of *Sc* and its major correlates which include *Pa*, *Pt* and *F* as well as on *K*, which is added to *Sc* to enhance its discriminating power. Emphasis on these latter scales occurred due to their suggested relationship with schizophrenia as documented in numerous MMPI interpretative guides (e.g., Carson, 1969; Fowler, 1966; Lachar, 1974). With regard to the relation between *K* and *Sc*, Carson (1969) noted that a patient who obtains an elevation on *Sc* by virtue of having a high *K* manifests different psychopathology than a patient who obtains an elevation on *Sc* accompanied by a low *K*. No empirical support was provided. Additionally, an attempt was made to control for a major error source in prior investigations of this type, namely the validity and reliability of the diagnosis of schizophrenia.

### Method

#### Subjects

The subjects were 228 white male and 241 white female patients admitted to either a private or a university psychiatric inpatient facility with an admitting diagnosis of schizophrenia. The subjects were between the ages of 20 and 38 years ( $M = 24.5$ ) and their level of education ranged from 2 to 14 years ( $M = 9.9$ ). First admissions to a psychiatric hospital comprised 62% of the sample. Although there

were no significant educational differences as a function of sex, the female patients were significantly older ( $p \leq .05$ ). Black patients were excluded from this study because significant differences between the races attributable to cultural factors appear quite frequently on *Sc* suggesting the need for revised MMPI norms for black subjects (Gynther, 1972; Strauss, Gynther, & Wallhermfechtel, 1974). Also, adolescent patients were excluded from this study because such profiles should be evaluated using adolescent norms as presented by Marks, Seeman, and Haller (1974).

#### Apparatus

**The Mental Status Schedule.** The Mental Status Schedule (MSS) was developed by Spitzer, Burdock, and Hardesty (1964) to provide a standardized interview to assess the major dimensions of the mental status in which the content and order of questions are fixed. The MSS contains an interview schedule and a matching inventory of 248 dichotomous items descriptive of small units of psychopathological behavior which the interviewer evaluates as true or false. The interview schedule is a series of 82 questions arranged in a definite sequence to provide a natural progression of topics which cover a wide range of psychopathology. Supplementary questions are provided to clarify or probe into the areas where the patient's responses seem incomplete. While standardized, the procedure has enough flexibility so that when properly administered it seems like a typical clinical interview (Spitzer, Fleiss, Kernohan, Lee, & Baldwin, 1965). A detailed description of the MSS as well as information bearing on the reliability, validity, and administration of this instrument can be found elsewhere (Spitzer, Fleiss, Indicott, & Cohen, 1967).

The advantages of the MSS over other commonly used assessment procedures included the incorporation of a standardized interview schedule to reduce inconsistency and oversight due to variability in interviewing technique and coverage of psychopathology, awareness of what questions were asked to provide a framework within which the patient's re-

Table 1

Coefficients of the Discriminant Functions for the Four Symptoms  
Used to Classify Schizophrenia

Symptom	Schizophrenic	Nonschizophrenic
Loose associations . . . . .	6.85035	.65298
Autism . . . . .	4.69684	.45912
Loss of ego boundaries . . . . .	4.94757	1.88828
Delusions . . . . .	4.25569	.52454
Constant . . . . .	-8.81648	-1.06585

sponses could be understood by others not present at the interview, and the use of a score which served simultaneously as a permanent clinical record and as a form for automated data processing. The use of the same interview schedule for all patients has the research advantage that differences observed among patients tended to reflect actual differences rather than artifacts caused by differences in areas of psychopathology explored or interviewing techniques used.

**Newmark's Symptom Assessment Questionnaire** Newmark, Ratt, Toomey, Hunter, and Mazzaglia (1975) used a discriminant function analyses approach to assess whether any major psychiatric symptoms ( $\phi > .50$ , frequency at least 50%) if combined in clusters were highly discriminating of schizophrenia. Combinations of the discriminant values of six major symptoms (loose associations, autism, social withdrawal, loss of ego boundaries, delusions, and concrete thinking) were varied until almost total diagnostic classification accuracy was obtained. Using the coefficients of the discriminant functions of four of these six major symptoms to predict schizophrenia (i.e., loose associations, autism, loss of ego boundaries, and delusions) correctly classified 97% of the total sample of 272 psychiatric inpatients. The coefficients of the discriminant functions for these four symptoms used to classify subjects as schizophrenics or nonschizophrenics can be found in Table 1. Only by

using 16 symptom variables was the classification accuracy increased to 100%. Using discriminant function analysis with nonpathognomonic symptom combinations appears to be a practical and viable diagnostic system of schizophrenia which showed significantly greater correspondence to the results obtained from traditional hospital diagnostic procedures when compared with other prominent diagnostic systems (Newmark, Falk, Boren, & Finch, 1976; Newmark, Falk, Johns, Boren, & Forehand, 1976).

#### Procedure

Subjects received the MMPI approximately 48-96 hours after admission as part of the routine screening procedure. Before administration of the symptom assessment questionnaire, the raters, consisting of three PhD clinical psychologists discussed the four symptom definitions to insure that no idiosyncratic biases were evident. All raters had at least five years of diagnostic experience. This procedure was necessary since Kreitman (1961) demonstrated that variables relating to nomenclature and degree of experience are the greatest impediments to reliability in psychiatric diagnoses. Clearly definable terms and equivalent diagnostic experience are essential.

Each patient then was interviewed within 24 hours following completion of the MMPI, using the MSS by one of the raters while another rater observed this initial diagnostic interview behind a one-way mirror. Neither rater was familiar with

the patient's history or observed ward behavior. Reliability is definitely enhanced if two raters observe the same interview rather than each rater observing a separate interview (Wittenborn, 1972). Thus, each subject was rated each time by two raters so that inter-rater reliability was assessed for each subject. Immediately after the interview, each rater recorded his observations independent of his colleague's rating. A symptom was not considered to be present unless both raters agreed upon its presence. The percent of agreement between pairs of raters ranged from 75% to 100% ( $Md = .90$ ). This 90% agreement may be an overestimate because it includes agreements on both the presence and absence of symptoms. Agreement on the presence is more critical and was somewhat lower at 83%. However, because percentage of agreement seems to be an overestimate of reliability, kappa, a statistic for measuring agreement of nominal categories, such as diagnosis, which incorporates a correction for chance, was used (Spitzer & Fleiss, 1974). The kappa value for agreement between pairs of raters ranged from .60 to 1.00 ( $Mdn = .75$ ).

When the ratings were completed, the coefficients of the discriminant functions for each of the four major symptoms were utilized to diagnose schizophrenia versus nonschizophrenia. Such calculations require little time and effort. For example, if a patient exhibited loose associations, loss of ego boundaries, and delusions, but not autism, the discriminant function equation using Table 1 was  $685035(1) + 469684(0) + 494757(1) + 425569(1) + 881649 - 72371$  and  $65298(0) + 45912(1) + 188828(0) + 52454(0) - 106585 = -.6067$ . Because the value obtained using coefficients for schizophrenia was greater than the value obtained using coefficients for nonschizophrenia, the patient was classified as schizophrenic. Note that the number one is used as the multiplier with the coefficients for schizophrenia if the symptom is present, while zero (0) is used as the multiplier with the coefficients for nonschizophrenia if the symptom is absent. Whatever multiplier, namely 0 or 1, is used with the symptom coefficient of

schizophrenia then is used as the multiplier with the corresponding symptom coefficient for nonschizophrenia.

If the admission diagnosis of schizophrenia was not supported by all available clinical information, social history, observed behavior on the ward, diagnostic interview impression via the MSS and the use of discriminant function analysis as well as the administration of projective psychological testing, the patient was removed from this study. Such a rigorous procedure was necessary in order to increase the validity of the diagnosis. Many prior studies relating the MMPI to schizophrenia based the diagnosis primarily on subjective impressions from an unstructured initial interview and thus the potential of idiosyncratic diagnostic bias of schizophrenia was evident (e.g., Yustin, Nihira, & Mortashed, 1974).

An attempt then was made to determine systematically the optimal ranges and relationships of the MMPI scales which when combined would be either pathognomonic or highly discriminative of schizophrenia.

### Results

Of the initial 228 males and 241 females with an admission diagnosis of schizophrenia, 50 males and 59 females were either unable or unwilling to complete the MMPI. Excessive confusion and/or lack of cooperation were the primary reasons. No completed profiles were excluded regardless of traditionally defined invalidity criteria. Of the resultant 178 males and 182 females, support for the diagnosis of schizophrenia occurred for 146 (82%) of the males and 138 (76%) of the females.

The schizophrenic samples encompassed seven diagnostic categories described in DSM II (American Psychiatric Association, 1968). These categories included simple paranoid, acute, atypical, residual, affective, and chronic undifferentiated. That no catatonic or hebephrenic schizophrenia were diagnosed is consistent with findings of a recent study by Morrison (1974) which revealed that the diagnosis of these two schizophrenic entities has decreased significantly over the past 47 years. The de-



creases appeared due to changes in definition and hospital admission practices.

Examination of the MMPI profiles revealed that for 105 (72%) of the males and 98 (71%) of the females that the following scale characteristics occurred: (1) T score on *Sc*  $\geq 80 \leq 100$ ; (2) total raw score on *Sc* consisted of no more than 35% *K* items; (3) T score on *F*  $\geq 75 \leq 95$  and (4) T score on *Pt*  $\leq Sc$ . These criteria were diagnostic of schizophrenia regardless of the elevations of the other validity or clinical scales.

Forty-one (28%) of the males and 40 (29%) of the females did not obtain an MMPI profile which fit the above criteria. Of these 81 "false-negative" profiles, 17 closely approximated the normal *K+* profile (Marks, Seeman, & Haller, 1974), 32 had *K* contribute more than 35% of the total raw score for *Sc*, 38 had a T score on *F*  $> 95$  while 4 obtained a T score on *F*  $\geq 70 < 75$ . Additionally, 37 profiles had a T score on *Sc*  $> 100$ , 27 had a T score on *Sc*  $\geq 70 < 80$  while 13 profiles had a T score on *Pt*  $> Sc$ . It should be emphasized that the majority of "false-negative" profiles obtained from these schizophrenic patients failed to meet more than one of the above criteria. There was no significant differences as a function of specific schizophrenic diagnosis regarding which patients were incorrectly classified via the MMPI criteria.

The MMPI items with the highest endorsement frequency by the schizophrenic sample included item numbers 40, 156, 168, 182, 241, 315, 328, 335, 345, 349, and 356. Each of these 11 items was endorsed by at least 50% of the schizophrenic sample. Surprisingly, less than half of these items are included in the various critical items lists as presented by Dahlstrom, Welsh, and Dahlstrom (1972).

### Discussion

In order to determine the number of "false-positives," that is, nonschizophrenics who obtain MMPI profiles which fit all of the above criteria, an additional investigation was done upon completion of this study. The MMPI profiles of psychiatric inpatients from the University of North Carolina School of Medicine during the years 1972-1977

who received the MMPI by referral or as standard routine admission procedure were examined. While no adolescents or Blacks' profiles were included, no profiles were excluded due to the presence of invalidity criteria. All patients who received the diagnosis of schizophrenia were excluded, resulting in 1485 profiles.

The criterion diagnosis was obtained via traditional, somewhat informal hospital procedures typically used in psychiatric facilities (Newmark, Falk, Johns, Boren, & Forehand, 1976), namely by staff review of all available clinical information, social history, observed behavior on the ward, and an unstructured diagnostic interview. This diagnostic procedure was not as rigorous as for the schizophrenic sample in an attempt to obtain a readily accessible sufficient sample which was representative of all major diagnostic groups.

This nonschizophrenic sample encompassed diagnostic categories described in DSM-II. These categories included: nonpsychotic organic brain syndrome ( $n = 13$ ); psychosis due to organic factors ( $n = 7$ ); affective psychoses, including involutional melancholia and manic-depressive ( $n = 154$ ); other psychoses, including paranoid state and psychotic depression ( $n = 69$ ); neuroses, including anxiety, hysterical conversion, hysterical dissociative, phobic, obsessive-compulsive, depressive, depersonalization and hypochondriacal ( $n = 569$ ); personality disorders, including paranoid, schizoid, hysterical, antisocial, passive-aggressive, sexual deviate, alcoholism, and drug dependent ( $n = 490$ ); psychophysiological disorders, including musculoskeletal and gastrointestinal ( $n = 17$ ); and transient situational disturbances, including adjustment reaction of adult life and late life ( $n = 166$ ). No nonschizophrenic psychiatric diagnostic category was eliminated from the study in order to expedite the identifications of the number and kinds of symptoms found in all categories describing other psychiatric entities than schizophrenia.

Of these 1485 profiles, 82 (5.5%) met all the criteria for schizophrenia obtained in the initial investigation. Of these 82 profiles, the following diagnostic cate-

gories were represented: manic psychosis ( $n = 18$ ), involuntional melancholia ( $n = 2$ ), paranoid state ( $n = 2$ ), hysterical dissociative neurosis ( $n = 4$ ), obsessive-compulsive neurosis ( $n = 7$ ), depersonalization neurosis ( $n = 1$ ), hypochondriacal neurosis ( $n = 1$ ), drug dependence ( $n = 25$ ), alcohol addiction ( $n = 5$ ), antisocial personality ( $n = 3$ ), schizoid personality ( $n = 3$ ), hysterical personality ( $n = 3$ ), nonpsychotic organic brain syndrome ( $n = 3$ ), psychosis due to organic factors ( $n = 2$ ), and adjustment reaction of adult life ( $n = 3$ ).

The slightly high "false-positive" misclassification rates (MMPI diagnosed as schizophrenic a hospital-diagnosed nonschizophrenic) was spuriously elevated due to the presence of cerebral dysfunction and drug abuse in the nonschizophrenic sample. Twenty percent of the organic patients and 33% of the drug abuse patients obtained such schizophrenic MMPI profiles. The latter results were not surprising because Bower (1972, 1977) found that many symptoms thought to be pathognomonic of schizophrenia also occur in patients with acute psychoses induced by psychotomimetic drug abuse. Of the 82 nonadolescent nonschizophrenics who were misclassified, 30 were from these latter two groups. Elimination of these patients would reduce considerably this misclassification rate. Cerebral dysfunction can be detected by physical measures, but a thorough social history is needed to assess drug abuse. Unfortunately, both assessment strategies have definite limitations.

That approximately 18% of patients diagnosed as manic psychotics obtained admission MMPI profiles suggestive of schizophrenia is compatible with the results of recent investigations (Abrams & Taylor, 1976; Cohen, Allen, & Pollin, 1972; Taylor, Gaztanaga, & Abrams, 1974) emphasizing the similarity of the clinical phenomenology of mania and schizo-affective psychosis as well as the extreme difficulty with differential diagnosis. Many investigators do not view these as separate diagnostic entities (Abrams & Taylor, 1976).

Chi-square analysis between the schizophrenic and nonschizophrenic groups in these two related studies revealed signifi-

cant differences,  $\chi^2 (1) = 367, p \geq .001$ . Thus, the MMPI-defined criteria obtained in the initial investigation significantly differentiated between schizophrenics and nonschizophrenics. While increasing the ranges for each criterion obviously would raise the accuracy, a simultaneous increase in "false-positive" profiles would occur. Such an error could be quite harmful because labeling a nonschizophrenic as schizophrenic has adverse, often irreversible effects, even if corrected, due to the present fatalistic attitude toward schizophrenia. The deleterious effects of labeling a patient as schizophrenic have been described by social reaction theorists (Carpenter & Strauss, 1974).

Investigation of the Harris and Lingoes (Note 1) subscales and of *Pa* for detecting schizophrenia proved futile. Apparently, the former subscales are related to psychotic manifestations in general, not schizophrenia in particular. *Pa*, meanwhile, has been found to be the weakest scale on the MMPI (Dahlstrom et al., 1972), and while a high elevation almost invariably suggests paranoid ideation, many patients with paranoid features do not necessarily obtain elevated scores.

The present investigations demonstrated that 72% of psychiatric inpatients reliably diagnosed as schizophrenics can be detected on the MMPI via a set of standard criteria. Only 5.5% of nonschizophrenic psychiatric inpatients obtained MMPIs which met these criteria. There is now empirical support for these criteria which already have been used to some extent by diagnosticians on an intuitive basis (Graham, 1977).

#### Reference Note

1. Harris, R., & Lingoes, J. *Subscales for the MMPI*. Mimeographed materials, The Langley Porter Clinic, 1968.

#### References

- Abrams, R., & Taylor, M. A. Mania and schizo-affective disorder, manic type: A comparison. *American Journal of Psychiatry*, 1976, 133, 1445-1447.
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders* (1st ed.). Washington, D. C.: American Psychiatric Association, 1952.

- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders* (2nd ed.). Washington, D.C.: American Psychiatric Association, 1968.
- Bleuler, E. (*Dementia praecox*) (J. Zinklin, Trans.). New York: International Universities, 1950. (Originally published, 1908.)
- Bower, M. B., Jr. Acute psychosis induced by psychotomimetic drug abuse: I. Clinical findings. *Archives of General Psychiatry*, 1972, 27, 437-439.
- Bower, M. B., Jr. Psychoses precipitated by psychotomimetic drugs: A follow-up study. *Archives of General Psychiatry*, 1977, 34, 832-835.
- Cancro, R. A classificatory principle in schizophrenia. *American Journal of Psychiatry*, 1970, 126, 131-136.
- Carpenter, W. T., Jr., & Strauss, J. S. Cross-cultural evaluation of Schneider's first-rank symptoms of schizophrenia: A report from the international pilot study of schizophrenia. *American Journal of Psychiatry*, 1974, 131, 682-687.
- Carson, R. C. Interpretative manual to the MMPI. In J. N. Butcher (Ed.), *MMPI: research developments and clinical applications*. New York: McGraw-Hill, 1969.
- Choynowski, M. The usefulness of the Fisher linear discriminant function in clinical diagnosis with the MMPI. *Przegląd Psychologiczny* (Poznan, Poland), 1966, 11, 98-114.
- Cohen, S. M., Allen, M. G., & Pollin, W. Relationship of schizo-affective psychosis to manic depressive psychosis and schizophrenia. Findings in 15,909 veteran pairs. *Archives of General Psychiatry*, 1972, 26, 539-546.
- Dahlstrom, W. G., & Wahler, H. J. The application of discriminant function techniques to problems of psychiatric classification. *American Psychologist*, 1955, 10, 478.
- Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. *An MMPI handbook*, Vol. 1. *Clinical Interpretation*. Minneapolis: University of Minnesota Press, 1972.
- Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. *An MMPI handbook* Vol II *Research applications*. Minneapolis: University of Minnesota Press, 1975.
- Eichman, W. J. Discrimination of female schizophrenics with configural analysis of the MMPI profile. *Journal of Consulting Psychology*, 1959, 23, 442-447.
- Feighner, J. P., Robins, E., & Guze, S. B. Diagnostic criteria for use in psychiatric research. *Archives of General Psychiatry*, 1972, 26, 57-63.
- Fitzgibbons, D. I., & Shearn, C. R. Concepts of schizophrenia among mental health professions. *Journal of Consulting and Clinical Psychology*, 1972, 38, 288-295.
- Fowler, R. D. *The MMPI notebook: A guide to the clinical use of the automated MMPI*. Nutley, N. J.: Roche Psychiatric Service Institute, 1966.
- Goldberg, L. R. Diagnosticians vs. diagnostic signs. The diagnosis of psychosis vs. neurosis from the MMPI. *Psychological Monographs*, 1965, 79, 9 (whole No. 602).
- Graham, J. R. *The MMPI: A practical guide*. New York: Oxford University Press, 1977.
- Gynther, M. D. White norms and black MMPIs. A prescription for discrimination. *Psychological Bulletin*, 1972, 78, 386-402.
- Hathaway, S. R., & McKinley, J. C. *The Minnesota Multiphasic Personality Inventory Schedule*. Minneapolis: University of Minnesota Press, 1943.
- Hathaway, S. R., & Meehl, P. E. *An atlas for the clinical use of the MMPI*. Minneapolis: University of Minnesota Press, 1951.
- Henrichs, T. Objective configural rules for discriminating MMPI profiles in a psychiatric population. *Journal of Clinical Psychology*, 1964, 20, 157-159.
- Jackson, B. Reflections on DSM-II. *International Journal of Psychiatry*, 1969, 7, 385-392.
- Jackson, B. The revised diagnostic and statistical manual of the American Psychiatric Association. *American Journal of Psychiatry*, 1970, 127, 65-73.
- Kreitman, N. The reliability of psychiatric diagnosis. *Journal of Mental Science*, 1961, 107, 876-886.
- Lachar, D. *The MMPI. Clinical assessment and automated interpretation*. Los Angeles: Western Psychological Services, 1974.
- Marks, P. A., Seeman, W., & Haller, D. L. *The actuarial use of the MMPI with adolescents and adults*. Baltimore: Williams & Wilkins, 1974.
- Meehl, P., & Dahlstrom, W. G. Objective configural rules for discriminating psychotic from neurotic profiles. *Journal of Consulting Psychology*, 1960, 24, 375-387.
- Morrison, J. R. Changes in subtype diagnosis of schizophrenia, 1920-1966. *American Journal of Psychiatry*, 1974, 131, 674-677.
- Newmark, C. S., Falk, R., Boren, R., & Finch, A. J. Validation of an empirically derived set of symptom clusters to diagnose schizophrenia. *Journal of Clinical Psychology*, 1976, 32, 459-462.
- Newmark, C. S., Falk, R., Johns, R., Boren, R., & Forehand, R. Comparing traditional clinical procedures with four systems to diagnose schizophrenia. *Journal of Abnormal Psychology*, 1976, 85, 66-72.
- Newmark, C. S., Raft, D., Toomey, T., Hunter, W., & Mazzaglia, J. Diagnosis of schizophrenia: Pathognomonic signs or symptom clusters. *Comprehensive Psychiatry*, 1975, 16, 155-163.
- Spitzer, R. L., Burdock, E. I., & Hardesty, A. S. *Mental Status Schedule*. New York: Biometric Research, New York State Department of Mental Hygiene, 1964.
- Spitzer, R. L., & Fleiss, J. L. A re-analysis of the reliability of psychiatric diagnosis. *British Journal of Psychiatry*, 1974, 125, 341-347.

- Spitzer, R. L., Fleiss, J. L., Endicott, J., & Cohen, J. Mental status schedule: Properties of factor-analytically derived scales. *Archives of General Psychiatry*, 1967, 16, 479-492.
- Spitzer, R. L., Fleiss, J. L., Kernohan, W., Lee, J. C., & Baldwin, I. T. The mental status schedule: Comparing Kentucky and New York Schizophrenics. *Archives of General Psychiatry*, 1965, 12, 448-455.
- Strauss, M. E., Gynther, M. D., & Wallhermfelch, J. Differential misdiagnosis of blacks and whites by the MMPI. *Journal of Personality Assessment*, 1974, 38, 55-60.
- Taylor, M. A., Gaztanaga, P., & Abrams, R. Manic-depressive illness and acute schizophrenia: A clinical, family history and treatment response study. *American Journal of Psychiatry*, 1974, 131, 678-681.
- Taylor, M. A., & Heisler, J. Phenomenology: An alternative approach to diagnosis of mental disease. *Comprehensive Psychiatry*, 1971, 12, 480-486.
- Wittenborn, J. R. Reliability, validity, and objectivity of symptom-rating scales. *Journal of Nervous and Mental Disorders*, 1972, 154, 79-82.
- Yusin, A., Nihira, K., & Mortashed, C. Major and minor criteria in schizophrenia. *American Journal of Psychiatry*, 1974, 131, 688-690.
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## Personality Differences Between Established and Less-established Male and Female Creative Artists

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**Summary:** Past research on personality constructs of creative individuals has focused on men rather than women and has neglected the essentially social aspect of being considered creative. Therefore, personality variables of 60 male and 60 female creative artists were described using the California Psychological Inventory (CPI). Male and female groups were further divided equally into two subgroups reflecting a difference in degree of social acceptance of their work. Relationships between the four groups were explored by multiple discriminant analysis. The major conclusion noted was that creative females tend to be more like their creative male counterparts, in terms of CPI scale variation, than are males and females in general.

The importance of research concerning the personality orientation of creative individuals has been previously emphasized (Cattell & Butcher, 1968; Dellas & Gaier, 1970; Golann, 1963). Although past investigations into the personalities of creative persons have yielded extremely consistent reports of their personality characteristics (Barron, 1955, 1961, 1968, 1972; MacKinnon, Note 1), most research to date has neglected the essentially social aspect of being considered creative and has focused on men rather than women.

In spite of an abundance of theoretical formulations concerning the possibility of cultural influences upon the creative person, there exists little research directly relating to that dimension. Utilizing a variant of Stein's (1975) definition, creativity is viewed as a process which results in a novel, useful, or tenable work which is accepted by some significant (other or) group of others at some point in time. Therefore, creativity cannot be separated from the culture within which it appears. Boring (1950) referred to this relationship as the *zeitgeist* and both he and Barron (1968) stressed that creative contributions are limited (and/or stimulated) by culturally mediated influences and evaluations. It would seem that, if

culture and the creative are so bound, then certain personality characteristics of creative individuals may, in part, be developed in reaction to the way people in their cultural milieu respond to their creative effort.

In addition, past research into the creativity construct has been primarily limited to men and, as Dellas and Gaier (1970) point out, the manifestation of this dimension in women remains fragmentary and ill-defined. Barron (1961) also reports that, in studies at the Institute of Personality Assessment and Research, sex differences were not often examined. Helson's (1961, 1966, 1967, 1968) studies are some of the few contributions in this area, and suggest that factors involved in the operation and emergence of creativity may be different for men and women.

This investigation concerns individuals practicing in the field of fine arts including painters, sculptors, printmakers, and master draftpersons. The California Psychological Inventory (CPI) was utilized for description of personality characteristics of the sampled creative artists. Multiple discriminant analysis techniques were employed to study the relationships between the four possible groups (established male, less-established male, established female, and less-established female).

Thus, the hypotheses tested by this research were as follows: (a) There exists sufficient variation between male and female creative artists to provide significant discrimination on the CPI; (b) There

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exists sufficient variation between established and less-established creative artists to provide significant discrimination on the California Psychological Inventory.

### *Method*

#### *Subjects*

Individuals whose specific areas of creative endeavor were painting, printmaking, drawing, or sculpting were sought by soliciting the participation of artists affiliated with art associations, art galleries, museums, or universities within the San Francisco Bay area and the midwest. The criteria for a subject to gain inclusion in this study were three years of formal training or six years of comparable experience. Formal training was defined as college level course work or tutelage from a qualified instructor. In addition, subjects were limited to those earning a total of 5 points or more on the following weighted criteria: (a) 1 point for the first 20 hours per week currently devoted to art related activities and 1 point for each additional 5 hours so devoted; (b) 2 points for the first \$500.00 per year earned through sales of original art work and 1 point for each additional \$500.00 in sales per year; (c) 2 points for acceptance to the first juried art show in the last 3 years and 1 point for each additional acceptance; (d) 1 point for the first 10 pieces of art work completed per year and 1 point for each additional piece of art work completed; and (e) 1 point for any and all nonjuried shows in the last 3 years. These criteria were chosen after consultation with several area artists and a questionnaire was used to gain the pertinent information. Behavioral data, as opposed to creativity tests or peer evaluations, were considered appropriate in the description of creativity for two reasons: (a) Creativity tests are generally validated in terms of behavioral criteria and/or peer evaluations; (b) the behavioral data developed for the present investigation are rationally equated with its definition of creativity.

#### *Procedure*

Each potential subject was assured of anonymity and asked to complete both the questionnaire and the CPI and to re-

turn them by mail. Of the packets distributed and then returned, 90% met the established criteria for acceptance. Performance on the validity scales of the CPI was satisfactory for all respondents. Those creative artists who scored above the median on the weighted criteria were considered established, while those who scored below the median were considered as less-established. The median number of points earned was 16.7 with a range of from 5 to 76. Subjects were then matched for age while being assigned to the four possible groups: established male, less-established male, established female, and less-established female. The resultant four groups consisted of 30 members each. Table 1 contains information as to the range and median of each of the criteria developed for the present research in each of the four possible groups. Median values were chosen since the distributions of these criterion variables were positively skewed. For all 120 subjects, age ranged from 23 to 71, with a mean of 47 and a median of 48 years of age.

Multiple discriminant analysis techniques were then utilized to study the relationships between the four groups in terms of the personality variables of the CPI. The present investigation employed a stepwise solution using Wilks' lambda. The test criterion was the overall multivariate *F* ratio for differences among the group centroids.

### *Results*

The multiple discriminant analysis, performed on the raw scores of the 18 scales of the CPI, resulted in a reduced set of four discriminating variables. The CPI scales constituting this reduced set were as follows: Femininity, Tolerance, Psychological-mindedness, and Communality. Discrimination for the first discriminant function was significant ( $p < .001$ ). The values of the group centroids for both male groups on this discriminant function were negative and similar in value while the centroids for the female groups were positive and similar in value. Thus, discrimination associated with the first discriminant function was between males and females. Femininity was the discriminating vari-

Table 1

Range and Median Values for Criterion Variables

	Group <sup>a</sup>			
	EM ( <i>n</i> = 30)	LM ( <i>n</i> = 30)	EF ( <i>n</i> = 30)	LF ( <i>n</i> = 30)
Hours weekly	70 (10-105)	27 (6-70)	44 (9-100)	24 (3-90)
Dollars yearly	\$3,500 (0-21,000)	\$250 (0-3,000)	\$1,400 (0-17,000)	\$265 (0-3,000)
Juried shows	5.4 (0-30)	2 (0-10)	8.7 (0-18)	1.3 (0-8)
Non-juried shows	5.1 (0-30)	2.7 (0-35)	10 (0-35)	3.6 (0-25)
Pieces yearly	45 (3-300)	12.5 (1-50)	50 (6-300)	22.5 (2-90)
Years in training	5.3 (0-18)	2.7 (0-13)	7.2 (0-50)	5 (0-15)
Years working	14 (3-45)	14.3 (6-50)	12.5 (2-65)	10 (3-30)
Establishment score	34.4 (20-75)	9.6 (5-16.5)	32.1 (17-76)	7.6 (5-16.5)

*Note.* Ranges are in parenthesis, directly below median values.

<sup>a</sup> Group names are abbreviated as follows: EM (established male); LM (less-established male); EF (established female); LF (less-established female).

able contributing most to differences between males and females. The next most important discriminating variable was the Tolerance scale of the CPI. The canonical correlation associated with the first discriminant function was .64. Therefore, approximately 40% of the variance in the first discriminant function was explained by the groups. The eigenvalue associated with this discriminant function indicated that 89% of the discriminating power of the reduced set of scales existed in that function.

Having discriminated significantly between males and females, a second dis-

criminant function, independent of the first, was derived to determine if sufficient discriminating power remained for discrimination between established and less-established creative artists. Although nonsignificant ( $p < .17$ ), the second discriminant function was making discrimination between those two groups. The canonical correlation associated with this discriminant function was .26; thus only 7% of the variance in the second discriminant function was explained by the groups. Relative importance of the function as represented by the percentage associated with its eigenvalue was 9%.

The discriminant measure (CPI) provided sufficient accuracy for 51% correct classification across all four groups. Moreover, 81% of total cases were correctly classified by sex while 63% were correctly classified by degree of establishment.

### Discussion

The most striking feature of research concerning the creativity construct utilizing the CPI to date is the consistency observed in the combined profiles. The finding that discrimination between male and female creative artists existed primarily within the Femininity and Tolerance scales of the CPI coincides exactly with research reported by both Barron (1972) and Zeldow (1973). Noteworthy in this regard is that creative females tend to differ from creative males with respect to these two scales and not on other scales of the CPI traditionally associated with sex differences including: Socialization, Communitary, Responsibility, Achievement via Conformance, Self-control, and Good Impression (Megargee, 1972). This would suggest that creative males and creative females are more alike, in terms of CPI scale variation, than are males and females in general. This result may be associated with Helson's (1967) finding that creative females tend to be further removed from social norms than comparison women. In fact, it may be that sex differences reported on certain scales of the CPI are more a result of acceptance of a culturally defined role than true sex differences in personality. At any rate, the resultant picture of the female artist and the male artist is that the two tend to be remarkably alike, at least in terms of personality variables measured by the CPI.

Since discrimination between established and less-established creative artists was nonsignificant, it appears that cultural influences, as reflected by societal position, may not be important to the personality organization and development of the creative individual. This finding lends support to Myden's (1959) conclusion that artists are not easily swayed by outside reactions and opinions. Indeed, it appears that not only are creative artists resistant to societal reaction

as regards their art but also in terms of their personalities.

### Reference Note

1. MacKinnon, D. W. *The personality correlates of creativity: A study of American architects*. Paper presented at the Fourteenth International Congress of Applied Psychology, Copenhagen, Denmark, 1962.

### References

- Barron, F. The disposition toward originality. *Journal of Abnormal and Social Psychology*, 1955, 51, 478-485.
- Barron, F. Creative vision and expression in writing and painting. In, *Conference on the creative person*. Berkeley: University of California, Institute of Personality Assessment & Research, 1961, II, 1-19.
- Barron, F. *Creativity and personal freedom*. New York: Van Nostrand, 1968.
- Barron, F. *Artists in the making*. New York: Seminar Press, 1972.
- Boring, E. G. *A history of experimental psychology*. New York: Appleton-Century Croft, 1950.
- Cattell, R. B., & Butcher, H. J. *The prediction of achievement and creativity*. Indianapolis: Bobbs-Merrill, 1968.
- Dellas, M., & Gaier, I. I. Identification of creativity. *The individual Psychological Bulletin*, 1970, 73, 55-71.
- Golann, S. E. Psychological study of creativity. *Psychological Bulletin*, 1963, 60, 548-565.
- Helson, R. Creativity, sex, and mathematics. In *Conference on the creative person*. Berkeley: University of California, Institute of Personality Assessment and Research, 1961, IV, 1-12.
- Helson, R. Personality of women with imaginative and artistic interests: The role of masculinity, originality, and other characteristics in their creativity. *Journal of Personality*, 1966, 34, 1-25.
- Helson, R. Sex differences in creative style. *Journal of Personality*, 1967, 35, 214-233.
- Helson, R. Generality of sex differences in creative style. *Journal of Personality*, 1968, 36, 33-48.
- Megargee, E. I. *The California Psychological Inventory handbook*. San Francisco: Jossey-Bass, 1972.
- Myden, W. Interpretation and evaluation of certain personality characteristics involved in creative production. *Perceptual and Motor Skills*, 1959, 9, 139-158.
- Stein, M. I. *Stimulating creativity* (2 vols.). New York: Academic Press, 1975.
- Zeldow, P. B. Replication and extension of the personality profile of "Artists in the making". *Psychological Reports*, 1973, 33, 541-542.
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## Masculinity and Femininity as Factors in Feminism

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**Summary:** The relationship between feminism and sex roles was explored in two studies. In female college students, sex-role types were measured by Baucom's (1976) MSC and FMN scales and by Bem's Sex-Role Inventory (Bem, 1974). Feminism was measured by the Attitude Toward Women Scale (AWS, Short Form) (Spence & Helmreich, 1972) and the Women's Liberation Scale (WLS) (Goldberg, 1976). Two groups of women were predicted to be more profeminist than others: (a) those scoring high on both masculinity and femininity and (b) those scoring high on masculinity and low on femininity. Results of the study supported both hypotheses using the AWS but not the WLS. In the second study, MSC and FMN served as the basis for forming sex-role types, and feminism was measured by participation in NOW. Again, a large number of women high on masculinity and low on femininity were feminists; however, women high on both masculinity and femininity were underrepresented in NOW. Different results in the two studies are discussed in terms of the different ways that feminism was measured.

Within the past five years, researchers have become interested in studying various aspects of the Women's Movement. One objective has been to isolate various personality traits, values, attitudes, and behaviors of feminists. Stoloff (1973) and Tavis (1973) found feminists to be religiously liberal and politically active and liberal. Fowler and Van de Riet (1972) found that feminists are more autonomous and self-confident than nonfeminists. A more recent study (Tipton, Bailey, & Obenchain, 1975) found feminists to be stronger, more powerful, more potent and more comfortable in approaching men than more traditional women.

In research dealing with characteristics which are typically masculine or feminine, Baucom (Note 1) found that the following characteristics are typically masculine: assertiveness, leadership, self-confidence, and public and social poise. Baucom also reported that the following are typical feminine characteristics: socialization, responsibility, tolerance, sensitivity to others' feelings, self-control, honesty and morality, and the desire to interact with and appeal to the opposite sex. Combining Baucom's findings with the feminist literature suggests that some feminists are high masculine/high feminine (High/High) persons who are dedicated to a social cause and are politically

active with the goal of attaining better conditions and less sexism for women. These persons have been able to break the restrictive sex-stereotypes and assume positive characteristics of both sexes. Bem (1974) terms these individuals "androgynous."

Evidence has also been found for a second type of feminist. Fowler and Van de Riet (1972) found feminists to be less nurturant and affiliative, and more aggressive and dominant than other women; on the positive side, the feminists had significantly more autonomy, self-confidence, self-control, and endurance. Tipton, Bailey, and Obenchain (1975) also found feminists to be more aggressive than more traditional women. Cherniss (1972) found that the adolescence of all but one of the feminists in his sample was characterized by severe estrangement and loneliness. The feminist as just described could be said to possess masculine personality traits (endurance, self-confidence, and self-control), but not feminine traits (nonfeminine traits being social isolation and lack of nurturance). Therefore, a second group of feminists seems to consist of high masculine/low feminine (High/Low) persons.

Zeldow (1976) explored the relationship between psychological androgyny and attitudes toward the rights and proper roles of women in contemporary society. Masculinity and femininity were measured

The authors wish to thank the members of NOW who participated in this investigation.

by Bem's Sex-Role Inventory (BSRI) (Bem, 1974), and feminism was measured by Spence and Helmreich's (1972) Attitude Toward Women Scale (AWS). Zeldow hypothesized that the androgynous persons (both men and women) would have the most profeminist attitudes, given their sex-role flexibility and their lack of any need to maintain a sex-typed self-image. Zeldow's results, however, did not support his prediction: androgynous persons were no more or less likely to hold profeminist attitudes than nonandrogynous persons.

Zeldow's results may be misleading because he used an early version of Bem's scoring system in which persons high on both masculinity and femininity and persons low on both masculinity and femininity (Low/Low) were grouped together as androgynous. Baucom (Note 1) has found High/High and Low/Low persons to be different from one another psychologically; combining these two groups would result in a heterogeneous category. A revised scoring system for the BSRI (Bem & Watson, Note 2) now classifies only High/High scorers as androgynous.

The current investigation included two studies which sought to clarify the relationship between feminism and sex-role types. The major purpose of the first study was to determine if, by using Baucom's (1976) MSC and FMN scales and the revised scoring system for the BSRI, androgynous (or High/High) women are more likely than other women to possess profeminist attitudes, as was originally predicted by Zeldow. High/Low women also were expected to express profeminist attitudes. Consistent with the above research, the current investigators have observed that some of these High/Low women appear frustrated with society's treatment of them personally, and they seem willing to work toward making their situation more just.

The first study also provided information about two sex-role and two feminism scales. The relationship was examined between Baucom's and Bem's scales, both of which purport to measure masculinity and femininity, as well as the relationship between Spence and Helm-

reich's (1972) AWS and Goldberg's (1976) Women's Liberation Scale (WLS), which were both designed to measure feminism.

Additional data were provided about the BSRI scoring system. The first study in part replicated Zeldow's work, the major difference being that the current study employed the revised scoring system for the BSRI. Thus, this study can shed light on whether the revised scoring system is an appropriate measure of sex-role types. Recently, Orlofsky, Aslin, and Ginsberg (1977) have challenged the sensitivity of the revised scoring system. They reported that using this newer categorization procedure, they found no relationship between the AWS and sex-role types as measured by the BSRI for either males or females. However, using a different BSRI categorization procedure developed by Orlofsky (in press), they found that masculine-typed women (High/Low) scored highest on the AWS. The current study used Bem and Watson's (Note 2) revised scoring system in relation to the AWS. Thus this study provided additional evidence regarding the appropriateness of this scoring system, and the results should be taken into account before Bem and Watson's scoring system is discarded in favor of Orlofsky's.

The first study used paper-and-pencil tests as the indices of feminism. Regardless of the resulting relationship between sex roles and feminism, assuming that the same relationship would hold when feminism was defined by participation in the Women's Movement seemed risky. Therefore, the second study was designed to investigate the sex roles of women who participate in the National Organization for Women (NOW). Based upon previous studies of feminists mentioned above, the investigators hypothesized that of women falling into one of the four sex-role types, there would be more High/High and more High/Low women than Low/High and Low/Low women in NOW.

### *Study I*

#### *Method*

The 109 female introductory psychology students (aged 18-28) enrolled in a West Texas university who volunteered

Table 1

Attitude Toward Women Scale as a Function of Scores on Baucom's MSC and FMN and the Bem Sex-Role Inventory: Analysis of Variance

Source of Variation	Baucom MSC and FMN				Bem Sex-Role Inventory			
	SS	df	MS	F	SS	df	MS	F
Masculinity	1069.32	1	1069.32	5.64*	931.05	1	931.05	4.97**
Femininity	252.20	1	252.20	1.33	10.64	1	10.64	.06
Interaction	19.16	1	19.16	.10	106.36	1	106.36	.57
Error	18205.39	96	189.64		19675.53	105	187.39	
Total	19714.44	99	199.14		20713.51	108	191.79	

Group	n	AWS Mean
H/H	12	48.16
H/L	34	52.71
L/H	21	42.86
L/L	33	45.48

Group	n	AWS Mean
H/H	25	49.50
H/L	24	52.12
L/H	22	45.71
L/L	29	44.36

\*  $p < .02$ .\*\*  $p < .03$ .

as subjects completed four questionnaires presented in random order: BSRI, MSC and FMN scales, AWS, and WLS.

Baucom's (1976) categorization system was used to place subjects into sex-role types based upon MSC and FMN scores. As Bem and Watson (Note 2) suggested, a median split was used to classify subjects' on the BSRI. In this study all median scores were classified as low. For the masculinity dimension, scores falling at or below the median (96) were classified as low, and scores falling above 96 were classified as high. For the femininity dimension, scores below or equal to the median (105) were classified as low, and scores above 105, high. Since Baucom's sex-role typology is based on an extreme groups approach and Bem's upon a median split, the samples vary somewhat in the respective analyses.

Four 2 (masculinity: high, low)  $\times$  2 (femininity: high, low) analyses of variance with unequal  $n$ , using the experimental design least squares method (Over-

all & Spiegel, 1969), were performed with the feminist score as the dependent variable. Correlations were computed for:

1. Baucom's MSC scale and Bem's masculinity dimension.
2. Baucom's FMN scale and Bem's femininity dimension.
3. The AWS and the WLS.

### Results

Table 1 shows the results of the analysis of variance using the Baucom MSC and FMN scales and the AWS. As predicted, high masculine scorers were pro-feminist ( $F(1, 96) = 5.64, p < .02$ ). Of a possible total score of 75, the high masculine mean score on the AWS was 51.52, and the low masculine mean score was 44.47. Also as predicted, there was no significant difference in feminist scores between high feminine and low feminine scorers, and there was no significant interaction effect.

Table 1 also contains the results of a second analysis of variance, which used



the BSRI with the AWS. In this analysis, high masculine scorers were also profeminist scorers ( $F(1,105)=4.97, p<.03$ ). The mean score on the AWS for high masculine scorers was 50.76; for low masculine scorers, the mean score was 44.95. There were no significant differences in feminist scores between high feminine and low feminine scorers using the BSRI, and no significant interaction effect. These results are strikingly similar to results obtained using the same feminist scale and the MSC and FMN scales.

The other two analyses of variance, which used the WLS as the dependent variable, resulted in no main or interaction effects at  $p<.05$ . The results were almost identical for these two analyses, one of which used Baucom's MSC and FMN Scales and the other which used the BSRI to measure masculinity and femininity.

The means and standard deviations of the current sample on Baucom's scales were as follows: MSC,  $\bar{X}=29.30, \sigma=9.33$ ; FMN,  $\bar{X}=30.84, \sigma=4.51$ . On the BSRI masculinity dimension,  $\bar{X}=4.73$  and  $\sigma=.77$ , and on the BSRI femininity dimension,  $\bar{X}=5.21, \sigma=.53$ . Baucom's masculinity dimension and Bem's masculinity dimension were correlated ( $r=.56, p<.001$ ), as were Baucom's and Bem's femininity dimensions ( $r=.23, p<.008$ ). For the AWS and the WLS,  $r=.70 (p<.001)$ .

### Study II

#### Method

MSC, FMN, and a brief demographic questionnaire were distributed at NOW meetings and workshops in West Texas with the explanation that the investigators were interested in studying the characteristics of participants in NOW. The women were asked to either complete the questionnaires at the time of distribution or return them by mail. All responses were anonymous.

#### Results

Forty-eight female members of three NOW chapters completed and returned the forms (60% response rate). They averaged 28 years of age. Half of them were married, 19 (40%) were single, and

the remaining 10% were divorced or separated. Of those not currently in school, almost all (92%) identified themselves as part of the labor force.

The scores of the 48 women on MSC and FMN were as follows: MSC,  $\bar{X}=36.10, \sigma=7.92$ ; FMN,  $\bar{X}=29.38, \sigma=3.98$ .

In Baucom's (1976) normative female sample, the classification system resulted in 65% of the total normative sample scoring within one of the four sex-role types, with essentially equal numbers of women in each of the four sex-role types. In the current NOW sample, 33 of the 48 women (69%) obtained scores on MSC and FMN which placed them into one of the four sex-role types based on Baucom's (1976) classification system. The central question in the current study is whether or not the 33 women falling into one of the four sex-role types are equally divided among the four types. The number of women in each of the sex-role types in the current sample is as follows: High/High,  $n=3$ ; High/Low,  $n=23$ ; Low/High,  $n=0$ ; Low/Low,  $n=7$ . Comparing this frequency of scores to a hypothetical distribution of equal representation in the four groups resulted in  $\chi^2=38.15, df=3, p<.001$ . Thus, certain sex-role types are overrepresented and underrepresented in this sample. Most striking are the large proportion of High/Low women, the total lack of Low/High women, and the small number of High/Highs. Of the 33 women who fell into one of the extreme sex-role groups, the majority of them (70%) were High/Lows—the sex-role type characterized as stereotypically masculine (Baucom, Note 1). Of the entire sample of 48 women, about half of them (48%) fell into this High/Low group.

#### Discussion

The results of the two studies indicate that there is a relationship between certain sex-role types and feminism. In the college study, the hypotheses were confirmed when the AWS served as the measure of feminism; the High/High and High/Low college females expressed more profeminist attitudes than females with other sex-roles. However, the same pattern of relationships did not hold



within the NOW group. More specifically, although a large number of High/Low females were represented in NOW, there was a small number of High/High females in NOW.

The different results of the two studies are likely due to the different indexes of feminism employed — a paper-and-pencil measure contrasted with participation in NOW. One of the main implications of the current study is a word of caution to investigators interested in assessing feminism. "Feminism" is a broad term, and results of investigations are likely to differ according to the definitions employed. Although strong conclusions from these findings would be unwarranted, the results are in accordance with growing evidence in personality research that expressed attitudes are not necessarily congruent with behavior. Expressing profeminist attitudes is widespread on college campuses and simply responding to a paper-and-pencil test in a certain way requires little effort; current findings suggest, however, that such endorsement may not be a good predictor of active participation in feminist groups. This is not to imply that such scales are worthless; they measure feminist attitudes which might well be the area of interest in many investigations.

Nor are the results from the two studies totally inconsistent with each other. In two sex-role types, some correspondence does seem to exist between feminist attitudes and behavior. High/Low women expressed the most profeminist attitudes on the AWS of the four sex-role types, and approximately half of the women in the NOW groups were High/Lows. Overall, Low/High women expressed the fewest profeminist attitudes on the AWS, and not a single Low/High woman was in the NOW groups. Bem and Allen (1974) have pointed out that some persons' behavior cannot be predicted from self-report statements, while other persons' behavior can be thus predicted. Stressing and idiographic approach to personality assessment, they showed that a given personality trait is more relevant to some persons than to others, and as a result differential predictability occurs.

It is notable that the two sex-role types that consistently emerged in the two studies — one as feminists and the other as nonfeminists — are the two stereotypic sex-role groups — stereotypically masculine (High/Low) and stereotypically feminine (Low/High) females, respectively. Using the Bem Sex-Role Inventory (BSRI) as the basis for forming a sex-role typology, Bem (1975) found that persons with these two sex-role types are relatively limited in the range of behaviors with which they are comfortable, restricting themselves to behavior consistent with their sex-role types. The current investigators suggest that since these persons feel that they have relatively few alternative ways of behaving, it is perhaps of particular importance for these two sex-role types that their sex roles be viewed as appropriate in society. This heightened importance may help to account for the greater consistency in expressing feminist attitudes and corresponding behavior shown by these women than by other women.

On the other hand, previous findings (Baucom, Note 1) provide evidence that High/High women have a good self-image, are interpersonally effective, and achieve high goals without offending or alienating people; they are well accepted by others. Bem (1975) has also shown that androgynous women are flexible in their behavior. Thus although High/High women with their nontraditional sex roles are likely to endorse feminist attitudes, their flexibility and success likely provide few personal reasons to actively seek more freedom and rights for women through organizations such as NOW.

Of course, the women participating in the NOW study are not the same individuals as those in the college study. Therefore, consistency between attitudes and behavior was not studied within a given individual. The issue of consistency between attitudes and behavior, as presently discussed, refers to the extent to which sex roles which seem to be related to feminist attitudes are correspondingly represented in feminist groups.

Important information was also obtained about the various scales used in

the studies. The first study using the AWS and WLS as measures of feminism was a partial replication of Zeldow's (1976) and Orlofsky et al.'s (1977) investigations. The current findings supported neither of their conclusions, and in so doing provided information about Bem and Watson's (Note 2) revised scoring system. Whereas Zeldow had found no relationship between androgyny and feminism when the original BSRI scoring system was employed, the current study using the revised scoring system found the expected relationships. This finding adds support to the appropriateness of the revised scoring system; further evidence is provided by the convergent results between Baucom's and Bem's sex-role typologies in relation to feminism. Orlofsky et al., using the revised BSRI scoring system, found no relationship to the AWS and suggested another scoring system for the BSRI. The current findings stand in contrast to Orlofsky et al.'s results, but the reasons are unclear. Since Orlofsky et al. did not present their analysis in detail, different approaches to data analysis cannot be ruled out as the determining factor. In any case, the current findings caution against presently discarding Bem and Watson's scoring system for yet another scoring system. Each time a new scoring system for a particular scale is introduced, integration of research with different scoring systems becomes difficult; therefore, there should be strong consistent evidence before a new scoring system is accepted.

Comparing the two sets of masculinity and femininity scales, the high correlation between the masculinity dimensions of Baucom's and Bem's scales suggests that the two scales are similar in their measurements. The femininity dimensions, however, were not as highly correlated. The smaller correlation for the two femininity scales could be due in part to restricted ranges of scores on the two scales. On the BSRI, extending two standard deviations in each direction from the mean score of all females in the current sample resulted in utilization of only 30% of the possible range of scores on the femininity scale; an analogous procedure on FMN resulted in inclusion of only 43% of the possible range of scores. Analogous procedures on

the masculinity scales resulted in a broader range of scores, 69% for MSC and 44% for the BSRI masculinity dimension.

Moreover, the differences in construction of FMN and the BSRI could contribute to their relatively low correlation. The criterion for item selection for Baucom's FMN was as follows: endorsement of an item by a large majority of females with a significantly lower level of endorsement by males. Bem's femininity scale contains items that both males and females agree are more appropriate for females than for males. Thus, whereas Baucom's scales focus upon *actual* differences between the two sexes, Bem's scales focus on agreed-upon *appropriate* behavior; there is no guarantee that actual differential behavior of the sexes will coincide with appropriate differential behavior (Nichols, 1962). In the current state of change in females' behavior, actual behavior (FMN) may not be consistent with behavior that has been considered appropriate for females (BSRI femininity). Since males' roles and behavior in society are not changing as rapidly as females', actual and appropriate behaviors of males are more likely to coincide, resulting in a higher correlation between the two masculinity scales than the two femininity scales. Although they are post-hoc, these interpretations suggest a note of caution to future investigators of sex-role research: since the two sets of scales are constructed differently, investigators should know exactly what they want to measure — either actual or appropriate sex differences — and choose the scales for their particular purposes. It is interesting to note that in spite of the limited correlation between the two femininity scales, the two sex-role typologies based upon these scales showed very similar relationships with the feminism scales in the first study.

The two feminism scales used in the first study were highly correlated, suggesting that the two scales measure similar constructs. Surprisingly, the AWS showed the expected relationship with both Baucom's and Bem's sex-role types; however, the WLS showed no such relationships. The reasons for this differential relationship with the sex-role types,

in spite of the high correlations between the two feminism scales, are unclear. Further research would be needed to clarify this issue.

## Reference Notes

1. Baucom, D. H. *Independent masculinity and femininity scales on the CPI. Construct validity and a sex-role typology*. Manuscript submitted for publication, 1977.
2. Bem, S. L., & Watson, C. *Scoring packet: Bem Sex-Role Inventory*. Unpublished manuscript, 1976. (Available from S. L. Bem, Department of Psychology, Stanford University, Stanford, California, 94305.)

## References

- Baucom, D. H. CPI measurement of masculinity and femininity as independent dimensions. *Journal of Consulting and Clinical Psychology*, 1976, 44, (5), 876.
- Bem, D. J., & Allen, A. On predicting some of the people some of the time: The search for cross-situational consistencies in behavior. *Psychological Review*, 1974, 81(6), 506-520.
- Bem, S. L. The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 1974, 42(2), 155-162.
- Bem, S. L. Sex-role adaptability: One consequence of psychological androgyny. *Journal of Personality and Social Psychology*, 1975, 31, 634-643.
- Cherniss, C. Personality and ideology. A personological study of women's liberation. *Psychiatry*, 1972, 35, 109-125.
- Fowler, M. G., & Van de Riet, H. K. Women, today and yesterday. An examination of the feminist personality. *The Journal of Psychology*, 1972, 82, 269-276.
- Goldberg, C. Women's liberation scale (WLS): A measure of attitude toward positions advocated by women's groups. *JSAS Catalog of Selected Documents in Psychology*, 1976, 6(1), 13 (Ms. No. 1187).
- Nichols, R. C. Subtle, obvious, and stereotype measures of masculinity-femininity. *Educational and Psychological Measurement*, 1962, 22, 449-461.
- Orlofsky, J. L. Sex role orientation, identity formation, and self-esteem in college men and women. *Sex Roles. A Journal of Research*, in press.
- Orlofsky, J. L., Aslin, A. L., & Ginsberg, S. D. Differential effectiveness of two classification procedures on the Bem Sex-Role Inventory. *Journal of Personality Assessment*, 1977, 41, 414-416.
- Overall, J. E., & Spiegel, D. K. Concerning least squares analysis of experimental data. *Psychological Bulletin*, 1969, 72, 311-322.
- Spence, J. T., & Helmreich, R. The Attitudes Toward Woman Scale: An objective instrument to measure attitudes toward the rights and roles of women in contemporary society. *Journal Supplement Abstract Service Catalogue of Selected Documents in Psychology*, 1972, 2, 66-67 (Ms. No. 153).
- Stoloff, C. Who joins women's liberation? *Psychiatry*, 1973, 36, 325-340.
- Tavris, C. Who likes women's liberation — and why: The case of the unliberated liberals. *Journal of Social Issues*, 1973, 29(4), 175-198.
- Tipton, R. M., Bailey, K. G., & Obenchain, J. P. Invasion of males' personal space by feminists and non-feminists. *Psychological Reports*, 1975, 37, 99-102.
- Zeldow, P. B. Psychological androgyny and attitudes toward feminism. *Journal of Consulting and Clinical Psychology*, 1976, 44(1), 150.

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## More on the Reliability of the Kinesthetic Aftereffects Measure and Need for Stimulation

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**Summary:** Recently, some have argued for a renewed interest in the kinesthetic aftereffects procedure (KAE) as a personality measure even though it may show low test-retest reliability. These arguments indicate that first-session KAE is valid but later-session KAE is not, due to the supposed appearance (in later sessions) of unwanted functional similarity between different aspects of the KAE procedure. Functional similarity leads to reduced reliability and validity of the retest. Data from two new studies do *not* support this functional similarity hypothesis, but these data do support the KAE by showing test-retest reliability. Also, the data show some new but tentative experimental evidence for the construct validity of second-session KAE as a measure of need for stimulation. These data do support the KAE as a personality measure but, when contrasted to arguments that *only* first-session KAE is valid, the data indicate that this is unresolved.

In the usual procedure for much research on personality and the kinesthetic aftereffects (KAE), a blindfolded subject touches a block with the fingers of one hand and judges its width by moving the fingers of the other hand along a slightly tapered block until the widths seem equal. This gives a pretest judgment (P). Then, while the hand that had been on the tapered block rests, the other hand rubs an "inducing" block of (usually) larger size than the first. After a brief period of such induction (e.g., 60 sec.), the original block is again judged giving a test judgment (T). The magnitude of the after-effect is obtained by subtraction:  $KAE = T - P$ .

A number of researchers (e.g., Petrie, 1967; Sales, 1971, 1972) have argued that the KAE score is reliable and meaningful as a personality measure. In keeping with Petrie's formulations, large negative scores (as computed here) indicate that a person subjectively *reduces* stimuli since stimulation by the inducing block makes the original test block seem to be smaller. Small negative or positive scores indicate *augmentation* of the subjective magnitude of stimulation. Sales' research

and review of the literature indicates that KAE reducers prefer larger amounts of external, objective stimulation. He assumes that augmenters and reducers have the *same* need for a nonzero level of internal stimulation. A low level of objective stimulation would, therefore, be pleasing to augmenters because they would "amplify" it, while reducers would find this same level of stimulation very dull and would prefer higher levels of objective stimulation in order to achieve the same pleasing internal state. Thus, Sales indicates that the KAE score may measure a trait of need for stimulation; reducers are high in this need.

Recently, Baker, Mishara, Kostin, and Parker (1976) and Baker, Mishara, Parker, and Kostin (1978) have reviewed the history of interest in the KAE personality measure. They find that initial enthusiasm was followed by a period from 1970 onwards with about an equal split of favorable and unfavorable validity studies. Further, their review indicates that many studies showed low or zero test-retest reliability. For example, while Petrie (1967) reported test-retest correlations of .77, .60, and .40 between different forms of the KAE (using inducing blocks of different sizes) with at least a 48-hour retest interval, others (e.g., Broadhurst & Millard, 1969; Morgan, Lezard, Prytulak, & Hilgard, 1970) failed to rep-

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licate this sort of result. Further, in using identical forms of the KAI as was done in the research reported here, several studies (Baker et al., 1976, 1978; Morgan & Hilgard, 1972; Platt, Holtzman, & Larson, 1971; Weintraub, Green, & Herzog, 1973) failed to find significant test-retest reliability. Earlier researchers (e.g., Morgan & Hilgard) viewed these reliability results as indicating that the KAI has only a small true-score component (in the psychometric sense) and, therefore, that it could not possibly have high validity.

To renew interest in the KAE and to identify the locus of problems in studies failing to show validity for the KAE, Baker et al. (1978) presented internal analyses from a test-retest KAI study and Baker et al. (1976) presented validity data from another such study. Their results indicate that first-session KAE scores are valid, but later-session scores are not valid due to a bias which appears after one has once been exposed to the KAI procedure. Identifying the pretest and test scores from the first KAI as  $P_1$  and  $I_1$  and second-session components as  $P_2$  and  $I_2$ , then the differential carry-over bias they discuss implies that  $P_2$  scores become functionally similar to  $I_1$  and  $I_2$ . Thus  $KAE_2 = I_1 - P_1$  is invalid because it subtracts two elements having different locations in the KAE, but  $KAE_2$  cannot be valid or reliable because it subtracts  $P_1$  and  $I_1$  which are highly correlated.

This explains low test-retest correlations because only KAE<sub>1</sub> is valid in the Baker et al. view. Using a first- vs. later-session distinction, they find that those post-1970 studies using KAI continue to support the construct validity of the KAI. Thus they argue there is still great promise for the KAI measure in personality research.

The primary internal analysis that Baker et al. (1978) present for the functional similarity between  $P_2$  and both of the  $I$ s is in terms of a large partial correlation between  $P_2$  and  $I_1$  when controlling for  $P_1$ . They find a value of .67 in data from one study in the literature and a value of .60 for this partial in the new data they report.

This paper reports data which support

the KAE as a personality measure but which differ from some of the specific recent conclusions about KAE reliability stated above. The two studies we conducted both used a treatment which we thought would alter need for stimulation and, thus, affect KAE scores. Our treatment was practice of the Transcendental Meditation program (TM) (the technique of Maharishi Mahesh Yogi as taught by the International Meditation Society and other affiliated organizations). Two lines of argument suggested that it might affect need for stimulation. First studies in the literature (e.g., Benson & Wallace, 1976; Shaffi, Lavelly, & Jaffe, 1974) indicate TM reduces use of substances such as cigarettes, alcohol, and illicit drugs. Zuckerman (Note 1) relates use of these substances to a sensation seeking motive, so lowered need for stimulation might explain the reported change in behavior due to TM. Second, Sales, Guydosh, and Iacono (1974) suggest that continued exposure to quieter experiences may act to reduce need for stimulation and Wallace (1970) indicates that TM induces a state which is physiologically quiet (for example, lower metabolism than in sleep) yet wakeful. Thus, practitioners of TM might look less like perceptual reducers due to periodic experience of a less-excited state of awareness.

The studies used a pretest-posttest design. Given the Baker et al. results, our first question was whether functional similarity in KAE<sub>2</sub> would lead to low test-retest correlations within conditions, so, then our KAE<sub>2</sub> might not be valid. Our data did not show functional similarity of  $P_2$  to the  $I$ s, and the data did show (at least over the short run in Study 1) a substantial test-retest correlation. On this basis, we proceeded to analyze treatment effects in the pretest-posttest design to assess the above hypotheses about TM and need for stimulation as measured by the KAE.

## Methods

### KAE Procedure

Baker (Note 2) has suggested that the details of KAE administration may be important in determining the reliability and validity of the measure. Therefore

although the procedure has been adequately described in many earlier reports in a general way, we here describe in detail the procedure we used in obtaining the results reported later. As a subject reported to the test room, he was asked to keep the fingers of both hands apart and to avoid tactile stimulation of the fingers. The general procedure for obtaining width judgments was then explained without showing the subject any of the apparatus. The subject was blindfolded, asked to stand in front of a table approximately 76 cm high and was then presented with two blocks; one was a 76 cm long slightly tapered wedge ranging from 1.27 cm. in width to 10.16 cm. and the other was a 3.81 cm. wide by 15.24 cm. long rectangular block. This apparatus was designed in the general form illustrated by Petrie (1967) and is typical of that used by several other researchers (e.g., Saxe, 1971, 1972). The wedge and rectangle were equipped with finger guides to keep thumb and forefinger directly opposite from each other on the sides, and the wedge was equipped with a measuring Lex which indicated the subject's placement of the fingers. The subject was asked to grasp the rectangular block with the thumb and index fingers of his preferred hand—depending on whether he said he was right- or left-handed. He was then asked to run the corresponding two fingers of the opposite hand along the wedge—starting at the narrow end—an ascending (ascending) until he found the point where the width of the wedge and rectangle seemed equal.

Using this procedure, the subject was given two practice trials and then made four judgments of the rectangular block. Each were averaged to serve as the subject's preinduction (P) score. Between each judgment, the wedge-shaped block was alternately moved back ward or forward approximately 15 cm. to prevent judgments being consistently made on basis of arm position rather than hand width. Following this first set of judgments, the subject was asked to rub a 36 cm. wide rectangular block for 60 s. by placing the thumb and index fingers of the preferred hand between the table finger guides. Thereafter, he

was asked to make four additional judgments of the 3.81 cm. block without his being told that it was the same original block; the average of these scores is the post-induction score (T). The KAE score was computed as  $T - P$ .

### Study I

This study used 31 (17 males, 14 females) young-term long-term meditators (6 months to 5 years of practice in the TM technique) who were randomly assigned to a meditate or control condition. All subjects were tested during a period of early evening without having had their usual period of late afternoon meditation. After KAE, scores were obtained, subjects received a hand-out containing written instruction (which was not to be mentioned to the experimenter) asking him to remain blind to their condition) which assigned them to one of the two experimental treatments. Other measures were administered both pre- and post-treatment in both hands and in Study II. Measures were administered (these other measures in detail). Those in the TM group were asked to meditate for 20 minutes, for which time they were instructed to remain in the usual time of 20 minutes. Control subjects were instructed not to meditate, but to rest for 20 minutes. "Rest" could include light activities such as reading a magazine, but they were specifically asked not to close their eyes, to keep their eyes open and active, and that would be the only difference to start meditating. After 20 minutes, subjects returned to the testing room, and KAE was obtained.

While the research of Wallace (1970) and others had indicated that TM produces a less excited state of physiology than closed-eye rest, our study combined closed-eye rest, the present study, which combines the effects of TM itself with whatever effect might be due to open vs. eyes-closed rest. We do not find much meaning in the observation that 20 minutes of meditation and 20 minutes of rest would be equivalent. However, if the TM procedure is to have any explanatory value, it must be shown that stimulation of a state that had a beneficial effect of treatment effects on KAE would

Table 1

Correlations Relating to Functional Similarity and to Test-Retest Reliability

	Study I (30 minutes)			Study II (3 months)		
	Within Control ( <i>n</i> = 15)	Within Treatment ( <i>n</i> = 16)	Overall <sup>a</sup> ( <i>n</i> = 31)	Within Control ( <i>n</i> = 14)	Within Treatment ( <i>n</i> = 28)	Overall <sup>a</sup> ( <i>n</i> = 42)
$T_1$ - $P_1$	-.10	.25	-.02 (.01)	-.22	.14	.08 (.84)
$KAE_1$ - $KAE_2$	..	.41*	.50*** (.48***)	.18	..	.31** (.28*)

<sup>a</sup>Partial correlations controlling for test-retest reliability were computed from the correlations in each study. The correlations are those for patients with a first of the two conditions, the first being a baseline or pre-treatment condition, with the second being post-treatment. The correlations for the first group of patients are based on a correlation of post-treatment with pre-treatment scores.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . All one-tailed.

possible to detect that the KAE procedure was unable to detect differences in the functional similarity used for stimulation.

#### Study II

This study was a **quasi-experiment** involving 28 FM and 14 control subjects, consisting of 2 males and 26 females, who all served at the same state psychiatric hospital. The group of 28 subjects consisted of those FM with the understanding that their condition would be paid by the state. The group of 14 control subjects consisted of 9 who had or plan to represent a control FM but were not trained due to funding limitations plus 5 other females who had no other psychiatric condition to participate in the study. All subjects were paid at work prior to FM treatment and again three months later. The experimenter was again blind to the subject-treatment condition.

### Results

#### Reliability of the KAE

Table 1 shows the test-retest reliability of the KAE and the partial correlations necessary to assess the functional

similarity hypothesis. The partials of  $P_1$  with  $T_2$  controlling for  $P_1$  were computed within conditions in each study. In contrast to Baker et al. (1988), the partials were essentially zero in all four cases. Within each study, the partials were significantly different between conditions, so Table 1 also shows the partials for whole study (and also the partials controlling for condition). None of these replicates the large positive partial reported by Baker et al.

Since  $P_1$  is not functionally similar to the  $T_2$ , we might expect good test-retest reliability (Baker et al. use baseline similarity to explain low test-retest). Table 1 presents the test-retest for pre-treatment and since they did not significantly differ between overall studies, it shows the overall  $r$ . For Study I's brief duration, we have substantial test-retest  $r$ . Study II's smaller, though generally replicable correlation.

#### Treatment Effects

Given the evidence of KAE reliability and the lack of evidence for functional similarity in KAE, we proceeded

Table 2

Post-Test Scores on KAI-M for the Control and Treatment Groups

		Study I		Study II	
		KAI <sub>1</sub>	KAI <sub>2</sub>	KAI <sub>1</sub>	KAI <sub>2</sub>
Control Group	Mean	-1.21	-1.28	-1.27	-1.28
	S.D.	(1.18)	(1.25)	(1.01)	(1.08)
		$n = 11$		$n = 11$	
Treatment Group	Mean	-1.43	-1.47	-1.46	-1.66
	S.D.	(1.10)	(1.49)	(1.15)	(1.44)
		$n = 16$		$n = 20$	

Note: Mean and standard deviation for KAI-M scores are reported for each study. The scores are calculated by averaging the KAI-M scores for the two studies.

the treatment effects. Table 2 presents the means and standard deviations of KAE<sub>1</sub> and KAE<sub>2</sub> for each of the two groups in each of the two studies. While there is a difference in KAE<sub>1</sub> scores between the two groups in both studies, this difference was not significant in Study I ( $t = 1.2$ ,  $p > 0.05$ ) or in Study II ( $t = 1.2$ ,  $p > 0.05$ ). In addition, the difference in KAE<sub>2</sub> scores between the two groups was not significant in either study. Thus, the difference in the Study II quasi-experimental design could not be attributed to a difference in the KAE<sub>1</sub> scores. The difference in the KAE<sub>2</sub> scores is also not significant in the Study II quasi-experimental design. Thus, the difference in the KAE<sub>2</sub> scores is also not significant in the Study II quasi-experimental design.

Looking at these results in more detail, we see that the control group's mean KAE<sub>1</sub> scores remained almost unchanged in both KAI<sub>1</sub> scores moved in the direction of more perceived indifference when KAI<sub>2</sub> scores for the FM group in both studies statistically moved in the direction of more indifference. Regression to the mean is a statistical artifact which tends to make two disparate groups look more similar upon retesting than they initially appeared. Thus, the KAE<sub>1</sub> scores moved in a direction toward the statistical center of the two pre-testing group distributions. The observed differences cannot be due to

this statistical artifact. This last point is particularly important in interpreting the results of Study II since it was a quasi-experimental design.

Since the KAI<sub>1</sub> scores were not significantly different between the two groups using KAI<sub>1</sub>, and a dummy variable for the control group in the two variables in a regression equation predicting KAE<sub>2</sub>, we used the method for this analysis. In both studies, the results of the KAI<sub>1</sub> scores were not significant. For Study I, the results were:  $t = 1.2$ ,  $p > 0.05$  Study II:  $t = 1.2$ ,  $p > 0.05$ . (One-tailed tests were used since we hypothesized in advance that FM would decrease KAE<sub>1</sub> scores.) For Study II, the results were:  $t = 1.2$ ,  $p > 0.05$ . (One-tailed tests were used since we hypothesized in advance that FM would decrease KAE<sub>1</sub> scores.) Since the KAI<sub>1</sub> scores were not significantly different between the two groups, we used the method for this analysis. In both studies, the results of the KAI<sub>1</sub> scores were not significant. For Study I, the results were:  $t = 1.2$ ,  $p > 0.05$  Study II:  $t = 1.2$ ,  $p > 0.05$ . (One-tailed tests were used since we hypothesized in advance that FM would decrease KAE<sub>1</sub> scores.) For Study II, the results were:  $t = 1.2$ ,  $p > 0.05$ . (One-tailed tests were used since we hypothesized in advance that FM would decrease KAE<sub>1</sub> scores.) Since the KAI<sub>1</sub> scores were not significantly different between the two groups, we used the method for this analysis. In both studies, the results of the KAI<sub>1</sub> scores were not significant. For Study I, the results were:  $t = 1.2$ ,  $p > 0.05$  Study II:  $t = 1.2$ ,  $p > 0.05$ . (One-tailed tests were used since we hypothesized in advance that FM would decrease KAE<sub>1</sub> scores.) For Study II, the results were:  $t = 1.2$ ,  $p > 0.05$ . (One-tailed tests were used since we hypothesized in advance that FM would decrease KAE<sub>1</sub> scores.)



### Discussion

Our results, especially those of Study I, indicate that the KAE has moderately strong reliability. This clearly differs from the findings mentioned earlier (Baker et al., 1976, 1978; Morgan & Hilgard, 1972; Platt et al., 1971; Weintraub et al., 1973). There seem to be two reasonable explanations for this marked difference. First, the test-retest interval may be relevant since Study I found substantial reliability (.48) with a very brief time (30 minutes) while Study II had a lower figure (.28) over a three-month period. This explanation is consistent with Kostin, Baker, Mishara, and Parker's (in press) claim that KAE scores may indicate both trait scores and a state variable; using a two-to-three day interval, they found a significant retest correlation (.35) for a group with consistent organismic state but not for an inconsistent-state group (difference in tiredness, difference in presence or absence of pain, etc.). Presumably, there is more opportunity for state variables to change over three months than over 30 minutes. Certainly there were other differences between the two studies such as the nature of the subject populations which might also affect the retest correlation, so we can only note this possibility. The second possible explanation relates to the fact that the details of our KAE procedure (e.g., exact size of blocks, exact length of induction period) differed from some of the studies showing no reliability for the KAE. In some as yet unspecified fashion, this might allow our procedure to find reliability where others have not (Baker, Note 2).

The question of which explanation, if either, is valid cannot be answered with the present data. However, we should note two additional things. First, the internal analysis we performed relating to functional similarity in KAE<sub>2</sub>—one possible explanation for lack of retest reliability—failed to show any evidence for this functional-similarity hypothesis. Second, we still found significant retest reliability over the three-month period when, presumably, state variables would have plenty of chance to change. This suggests that the details of the KAE procedure may relate most importantly to whether functional similarity in KAE<sub>2</sub> is

found and whether retest reliability is observed. One fruitful avenue for future research may be examination of how the KAE procedure may encourage or discourage functional similarity in readministrations of this measure.

Our result indicating an effect of the TM technique on KAE<sub>2</sub> is a preliminary one and should be replicated. However, to the extent that the two studies do show some consistent evidence that the treatment affected KAE scores, this may be taken as additional evidence of a new sort for the construct validity of the KAE as a measure of need for stimulation. Since we expected, on theoretical grounds, that the treatment would affect this trait in a particular direction, evidence that the treatment does affect a proposed measure of the trait is one sort of construct validity evidence (Cronbach & Meehl, 1955).

The present results have provided examples of significant test-retest reliability for the KAE, and the data provide some tentative additional evidence for the construct validity of KAE<sub>2</sub> as a measure of need for stimulation. This seems to support the position of Baker et al. (1976, 1978) that there should be renewed interest in the KAE. However, our data differ in their details from the results of Baker et al., who explain lack of retest reliability using the functional-similarity notion. We found no evidence for functional similarity in KAE<sub>2</sub>, and we did find retest reliability. Taken together, their results and ours support the validity of KAE<sub>1</sub>, but we argue that KAE<sub>2</sub> may also be reliable and valid. The conditions permitting later-session reliability and validity are not yet known, but this seems to point to an important future issue in research with the KAE.

### Reference Notes

1. Zuckerman, M. *Manual and research report for the Sensation Seeking Scale (SSS)*. University of Delaware, 1975.
2. Baker, A. H. Personal communication to first author, July 1977.

### References

- Baker, A. H., Mishara, B. L., Kostin, I. W., & Parker, L. Kinesthetic after-effect and personality: A case study of issues involved in construct validation. *Journal of Personality and Social Psychology*, 1976, 34, 1-13.

- Baker, A. H., Mishara, B. L., Parker, L., & Kostin, I. W. When "reliability" fails, must a measure be discarded? — The case of the kinesthetic after-effect. *Journal of Research in Personality*, 1978.
- Benson, H., & Wallace, R. K. Decreased drug abuse with Transcendental Meditation: A study of 1862 subjects. In D. W. Orme-Johnson & J. T. Farrow (Eds.), *Scientific research on the Transcendental Meditation program: Collected papers* (Vol. 1). Livingston Manor, New York: MERU Press, 1976, 498-505.
- Broadhurst, A., & Millard, D. Augmenters and reducers: A note on a replication failure. *Acta Psychologica*, 1969, 29, 290-296.
- Cohen, J. Multiple regression as a general data-analytic system. *Psychological Bulletin*, 1968, 70, 426-443.
- Cronbach, J. L., & Meehl, P. E. Construct validity in psychological tests. *Psychological Bulletin*, 1955, 52, 281-302.
- Fisher, R. A. *Statistical methods for research workers* (4th ed.). Edinburgh: Oliver & Boyd, 1932.
- Kostin, I. W., Baker, A. H., Mishara, B. L., & Parker, L. Kinesthetic after-effect, organismic state, and retest reliability. *British Journal of Psychology*, in press.
- Maliszewski, M. *Need for stimulation: Its relationship to interest in and practice of the Transcendental Meditation technique*. Unpublished doctoral dissertation, University of Chicago, 1977.
- Morgan, A., & Hilgard, E. The lack of retest reliability for individual differences in the kinesthetic after-effect. *Educational and Psychological Measurement*, 1972, 32, 871-878.
- Morgan, A., Lezard, F., Prytulak, S., & Hilgard, E. Augmenters, reducers, and the reaction to cold pressure pain in waking and suggested hypnotic analgesia. *Journal of Personality and Social Psychology*, 1970, 16, 5-11.
- Petrie, A. *Individuality in pain and suffering*. Chicago: University of Chicago Press, 1967.
- Platt, D., Holtzman, P., & Larson, D. Individual consistencies in kinesthetic figural after-effects. *Perceptual and Motor Skills*, 1971, 32, 787-795.
- Sales, S. M. Need for stimulation as a factor in social behavior. *Journal of Personality and Social Psychology*, 1971, 19, 124-134.
- Sales, S. M. Need for stimulation as a factor in preferences for different stimuli. *Journal of Personality Assessment*, 1972, 36, 55-61.
- Sales, S. M., Guydosh, R. M., & Iacono, W. Relationship between "strength of the nervous system" and the need for stimulation. *Journal of Personality and Social Psychology*, 1974, 29, 16-22.
- Shaffi, M., Lively, R., & Jaffe, R. Meditation and marijuana. *American Journal of Psychiatry*, 1974, 131, 60-63.
- Wallace, R. K. Physiological effects of Transcendental Meditation. *Science*, 1970, 167, 1751-1754.
- Weintraub, D., Green, G., & Herzog, T. Kinesthetic after-effects day by day: Trends, task features, reliable individual differences. *American Journal of Psychology*, 1973, 86, 827-844.

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# Development and Construct Validation of a Measure of Attitudes Toward Public Exposure to Sexual Stimuli

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**Summary:** This paper describes a brief, reliable, and valid measure of attitudes toward public exposure to sexual stimuli. Both advocates and opponents of public exposure to sexual stimuli typically cite presumed effects upon children. Consequently many of the factors that may influence the overall validity of the scale deal with prescriptive and proscriptive issues about the exposure of children to sex-related stimuli. Over a three-year period 1,004 different persons of respondents participated in the study. Both the longer and the shorter versions of the scale administered to these groups appear to have acceptable reliability. Exploratory factor analysis and construct validation information, the relationships between the Acceptance of Public Exposure to Sexual Stimuli and several measures of traditionalism, and the relationships between the scale and several measures of attitudes toward traditionalism and positive attitudes toward homosexuality were examined. Possible uses of the scale were discussed.

Public exposure to sexual stimuli has been the focus of a great deal of discussion and debate. Topics of concern include "pornography," sex education in the schools, and increasing public nudity. Those who favor restrictive policies in the realm frequently mention the presumed harmful effects upon children of exposure to sexual stimuli. Conversely, advocates of more permissive policies often refer to supposed detrimental developmental effects of lack of information about and negative attitudes toward human sexuality. For example, members of the Presidential Commission on Obscenity and Pornography (Lipton & Greenwald, 1970, p. 454) suggested that gradual exposure to sexual stimuli in the rearing of children leads to the development of healthy sexual attitudes and behavior. The Freudian view of the paramount importance of parental socialization of childhood sexuality may no longer be widely accepted. Nevertheless, social scientists and mental health professionals maintain a strong interest in understanding and assessing individual views about the expression or repression of human sexuality.

A number of researchers interested in the study of sexual knowledge, attitudes, and behavior have developed questionnaires and attitude measures to investigate these matters for sociological rea-

sons and for medical and clinical purposes. However, many of the existing scales are not particularly appropriate for tapping general attitudes toward exposure to sexual stimuli. Some measures have been primarily concerned with reports of specific premarital sexual behavior (Kaplan & 1978, Rimm, 1964). Others are designed for use in clinical diagnostic settings (Thurman, 1966). Specific questions about attitudes toward pornography in the mass media have been asked of representative samples of the U.S. population in several public opinion polls (Wilson & Abraham, 1970). Such surveys have been useful in detecting group differences in attitudes toward legalization of access to adult material, in general public exposure to public nudity, and more likely to be disapproved by females, residents of rural areas, those with less formal education, the religious, and the post-1950s cohorts. Although related to our concerns, the data generated in such surveys are quite general. Moreover, little effort has been devoted to developing valid procedures for measuring responses to such questions.

In light of these and other considerations, findings from a research project involving development of a scale to measure attitudes toward public exposure of sexual stimuli will be reported below. In particular, the variable to be measured is defined as willingness to accept exposure of one's self or others, particularly children, to public

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constructing our scale we emphasized prescriptive and proscriptive beliefs about the exposure of children to sex related stimuli.

Perhaps the existing measure that is closest in conceptualization and content to what we will have developed is the "Attitude Research Instrument (PARI)" constructed by S. L. Garfield and R. L. Glass and used by Zuckerman (1979). We were not aware of the existence of this measure until the manuscript for this book was completed. Given its application to the topics of suppression of childhood sexual behavior and of attitudes toward sexual exposure to sexual stimuli, the existence of two rather similar but independently developed measures may be useful to those interested in these phenomena.

### Method

### Preliminary Development

The initial version of the scale was constructed in the Spring of 1972 and five

1974 The senior author began by writing 40 items that she felt would elicit responses that are related to the acceptance or rejection of interpersonal or public exposure to sexual stimuli. From this initial

construct, etc The remaining 21 items

dent volunteers. In this pilot test, the reliability was

ingly high. Therefore, a decision was

construct validation

### The Samples, Measures and Testing Conditions

The 21 demands agreed to ensure pay-  
ment all under forward payment system  
- an exposure to a small amount of  
- either, in Lakshmi fortuitous is that  
- of the respondents were asked to agree  
- 3 disagree along a five-point scale with

"Strongly agree" = 4, "Agree" = 3, "Neutral" = 2, "Disagree" and "Strongly disagree" = 1. Responses were scored such that higher scores reflect more positive attitudes toward public expression of emotions.

In March 1922, 100 students and women were recruited for a "summer school" at the University of California and Fresno. The group, reported in *The Daily Californian*, the students' newspaper at the University at Berkeley, "were mostly young and well-educated. One-sixth of the composition were even foreigners of age, with enough baggage of Latin phraseology to impress the faculty. The majority of the students, described as composed of Hays High School graduates, had been in attendance at Fresno and had completed two or three months of preliminary study. The study program was formulated by President Moore, assisted by the college's department heads, and consisted of three weeks' study, classes in the general preparation, with particular attention to the preparation of essays, translations in Latin

1. The first sample contained the initial value, cumulative frequency, height, area, and a flag variable (1 = female, 0 = male), which they computed in increments containing every other element. The 22 rows within the height column listed the heights of both a mother and a father, but females in column A, heights in column B, and so on. Using this data, Dunning's theory of conservatism and anchoring states (1980, 1982, 1983, 1984) would predict that females and fathers' heights would be judged as being 1/2 independent variables, and that the anchoring effect of the comparison between males and females

A similar questionnaire study was conducted by the same researcher, and the results were published in 1981. It is possible that the differences between the two studies are due to the differences in the methodology of the studies. The questionnaires used in the 1981 study were more detailed, and the results regarding the use of various services were more detailed. The results of the 1981 study are more detailed than the results of the 1981 study, and the results of the 1981 study are more detailed than the results of the 1981 study.



ate for unmarried undergraduate students.)

In addition to these samples, further data on the reliability of the 19-item version of the measure were obtained as part of a questionnaire study of general family planning attitudes completed by a group of 44 upper division psychology students at the University of California at Berkeley in the Fall of 1973. (These students also participated in the study as part of their course requirements.) Thirty-three of these 44 students were re-tested with the sexual attitude measure after an interval of four weeks, providing data for an estimate of the test-retest reliability of the 19-item version of the scale.

The fourth and fifth groups participating in this study were young married women residing in the Berkeley, California, area who were recruited by newspaper advertisements to take part in a questionnaire study of childbearing intentions. The fourth group, studied during the Winter of 1974, consisted of 59 married women under 30 years of age with exactly two living children. The fifth group is made up of 38 childless women under 30 years of age, and married less than two years, who took part in the study during May, 1974.

### *The Construct Validation Measures*

Sexual attitudes are complex and are related to dimensions of an individual's overall values and attitudes as well as to personal needs and traits. For purposes of construct validation we selected measures of four values, a measure of a need, and a trait measure which would theoretically be expected to interrelate in a substantial way with the variable under investigation. In order to provide a rationale for the selection of the six measures used for construct validation purposes, a brief characterization of each of these six scales follows.

Levinson and Huffman's (1955) Traditional Family Ideology (TFI) scale is composed of 40 Likert-type items and is designed to assess differences in family ideology along an autocratic-democratic continuum. The authors state that the scale is conceptually based on five personality characteristics, including con-

ventionalism and a moralistic rejection of impulse life. Several of the items refer to moralistic views on sexual matters.

Kerlinger's (1967) conservatism and liberalism scales are designed to measure conservatism-liberalism on a number of issues, including private enterprise, education, and international relations. In his factor analysis, Kerlinger found that conservatism and liberalism were separate factors, and, consequently, the 13 Likert-format item conservatism scale and the 13 Likert-format item liberalism scale are scored separately.

Kaufman's (1957) status-concern scale is composed of 10 Likert-type items. This scale attempts to measure directly attitudes toward status and mobility; i.e., the value placed on symbols of status and on the attainment of higher status.

While Faulkner and DeJong's (Note 1) eight-item multiple choice scale is described by the authors as a general measure of religiosity, the items actually appear to be measuring orthodox or fundamentalist Judeo-Christian religious beliefs. The composite scale contains items selected to represent the five dimensions of religiosity proposed by Glock and Stark (1965): ideology, intellectual considerations, ritualism, religious experience, and consequence of religious affiliation.

The sixth measure used in the construct validation studies was the Modernity scale from Gough's (1970) Personal Values Abstract. Those who score high on the Modernity scale are seen by others as outgoing, self-assured, verbally fluent, attentive to change and new experience, interpersonally insightful, and somewhat assertive in dealing with others.

From these brief characterizations, it may be inferred that each of the six measures selected for construct validation purposes is designed to measure some aspect of traditionalism/modernism. Four of the measures, the TFI, liberalism, conservatism, and religious orthodoxy scales, are measures of values and attitudes that we think were more characteristic of Americans in the past than of contemporary Americans (with the exception of political liberalism, which, at least in the long historical view of American society, may be increasing).

Table 1

Summary of the Reliability Estimates for the  
Attitude Toward Public Exposure to Sexual Stimuli Scale

Sample	<i>n</i>	Kuder-Richardson	Test-Retest
Married Women	61	.91	—
Undergraduates	61	.89	—
Upper Division Students	44	.87	.88 <sup>a</sup>
Mothers of Two Children	59	.87 <sup>b</sup>	—
Childless Newlyweds	38	.84 <sup>b</sup>	—

<sup>a</sup> *n* = 33.

<sup>b</sup> 10-item version of scale.

It is partly this historical perspective that led us to think of all four of these scales as measures of traditionalism/modernism, in a very general sense. In addition to the historical judgment, significant age differences have been found on each of the four measures; The young are more politically liberal and less conservative, more progressive in their family ideology, and less religiously orthodox. It is also our view that contemporary Americans are more accepting of public expressions of sexual matters than were 18th or 19th century Americans. A progressive trend in sexual attitudes and reported behaviors in this country has been noted by numerous authors and researchers (Calderone, 1972; Hunt, 1974; Reiss, 1967).

In our judgment, negative attitudes toward public expressions of sexuality are part of the traditional American value system. Consequently, a valid measure of attitudes toward expressions of sexuality should be related to other indices of traditional American values. Specifically, it is hypothesized that positive attitudes toward public expressions of sexuality will be negatively related to traditional family ideology, political conservatism, and religious orthodoxy, and positively related to political liberalism.

Whereas TFI, liberalism/conserva-

tism, and religious orthodoxy are viewed as values, we view the status-concern scale as a measure of a *need* that characterizes striving, middleclass persons. It seems to us that those who are most concerned about maintaining and increasing social status will also be most concerned about adhering to traditional social norms, including traditional norms about public exposure of sexual stimuli. To violate such norms would be to run a risk of losing social status. Consequently, it is hypothesized that concern over status will be inversely related to positive attitudes toward public expressions of sexuality.

The sixth construct validation measure, Gough's measure of "modernity," is neither a value nor a need but is an interpersonal response trait that is reflected in the way an individual is seen by others. "Modern" individuals in this sense are hypothesized to be more positive toward public expressions of sexuality.

## Results

### Scale Reliability

Since four of the studies consisted of only one testing session, the Kuder-Richardson formula based on the average of item variances was used to estimate the reliability coefficients. A Pearson product-moment correlation coefficient was computed on the test-retest

Table 2

Correlations Between Items and Total Score (Minus the Given Item) for the  
Attitude Toward Public Exposure to Sexual Stimuli Measure

Item	Correlations	
	Sample 1 (married women)	Sample 2 (under- graduates)
1. Pregnant women should not wear bikinis on a public beach. ....	.77	.66
2. Little girls should be taught that their bodies are private. ....	.65	.63
3. Public displays of affection are in poor taste. ....	.65	.59
4. There are some girls who should always wear a bra. ....	.66	.33
5. Reading matter describing sexual behavior should be kept away from children. ....	.63	.60
6. It is more comfortable to sleep in the nude. ....	.41	—
7. Coeducational sex education classes should be part of the junior high school curriculum. ....	.41	.26
8. I would probably feel uncomfortable discussing certain parts of my body. ....	.27	.45
9. Children should not be allowed to look at pictures of nude people. ....	.66	.65
10. Nursing mothers should always try to nurse their babies in private. ....	.61	.68
11. Parents should walk around nude in front of their children. ....	.62	.61
12. Children should always wear underpants. ....	.62	.52
13. Adults who go nude on public beaches should be arrested for indecent exposure. ....	.60	.70
14. I think nudity is a beautiful thing. ....	.49	.41
15. People should always lock the door when using the bathroom, even in their own home. ....	.61	.42
16. I can't see anything wrong with unrelated six-year-old children playing together in the nude. ....	.59	.59
17. Sexual intercourse is more pleasant in a dark or dimly lit setting. ....	.38	—
18. It is best not to leave young boys and girls alone together for any length of time. ....	.57	.35
19. I don't mind discussing sex matters with friends of the opposite sex. ....	.46	.40
20. An unmarried girl who gets pregnant should feel ashamed of herself. ....	.54	.60
21. It wouldn't bother me at all to undress in front of a doctor. ....	.41	.26

Table 3

Correlations Between the 11 Item Version of the Attitude Toward Public Exposure to Sexual Stimuli Scale and Six Construct Validating Measures

	Sample 1 (married women)	Sample 2 (under- graduates)
Levinson's Traditional Family Ideology Scale . . . . .	-.71	-.74
Kerlinger's Political Conservatism Scale . . . . .	-.66	-.75
Kerlinger's Political Liberalism Scale . . . . .	.53	.44
Kaufman's Status-Concern Scale . . . . .	-.50	-.47
Faulkner & DeJong's Religious Orthodoxy Scale . . . .	-.50	-.39
Gough's "Modernity" Trait Scale . . . . .	.46	.38

data for the 33 upper-division psychology students who were retested after four weeks. The reliability estimates for the 21-, 19-, and 10-item versions of the scale administered to the five groups are shown in Table 1. All of the estimates are above .80 and indicate a moderately high degree of reliability. The test-retest coefficient of .88 indicates acceptable stability over at least a short time period.

A look at the item-to-scale (minus the item) correlations in Table 2 suggest that the longer version of the scale is reasonably internally consistent. All but four of the items correlated with the total score (minus the item in question) at least .30 in both of the first two study samples. The majority of the item-to-scale correlations were in the range of .50 to .77.

A shortened 11-item version of the scale was analyzed after eliminating the ten items with item-to-total-minus-the-item correlations of less than .50 in either sample. When the item-to-scale correlations (minus the item) were computed for this 11-item "subscale," the internal consistency improved somewhat over the pattern depicted in Table 2. In addition, the reliability estimates for this 11-item version were .92 for the married women in sample one and .89 for the undergraduate students in sample two. These data suggest that each item is sub-

stantially related to the same general attitude and that a meaningful interpretation can be given to a total scale score.

### Scale Validity

The results based on the separate samples cited above indicate that both a longer and a shorter version of the measure of attitudes toward public exposure to sexual stimuli are above the conventional minimum standards for acceptable evidence of reliability and internal consistency. The evidence for the construct validity of the scale is shown in Table 3 and based on the correlations between scores on the subscale of 11 items and scores on the six scales selected for purposes of construct validation. Each of the correlations is in the predicted direction and each is supportive of the hypothesized relationship. The fact that the coefficients differ only slightly between the two samples suggests that the observed relationships are probably not due to chance or sampling peculiarities.

Strong negative correlations between favorable attitudes toward exposure to sexual stimuli and both traditional family ideology and political conservatism were found. Status anxiety and religiosity were also found to be negatively correlated with positive attitudes on the sexuality measure, and modernity and po-



Table 4

Correlations Between Items and Total Score (Minus the Given Item) for the 10-Item Version of the Attitude Toward Public Exposure to Sexual Stimuli Scale

Item	Correlation Between Item and Total Minus Item	
	Sample 4 (Mothers of 2 Children)	Sample 5 (Childless Newlyweds)
1. Pregnant women should not wear bikinis on a public beach. ....	.54	.61
2. Little girls should be taught that their bodies are private. ....	.67	.67
3. Public displays of affection are in good taste. ....	.58	.51
4. Reading matter describing sexual behavior should be made available to children. ....	.46	.60
5. Children should be allowed to look at pictures of nude people. ....	.50	.58
6. Nursing mothers should always try to nurse their babies in private. ....	.64	.53
7. Parents should walk around nude in front of thier children. ....	.72	.63
8. Children should always wear underpants. ....	.58	.40
9. Adults who go nude on public beaches should be arrested for indecent exposure. ....	.50	.41
10. I can't see anything wrong with unrelated six-year-old children playing together in the nude. ....	.72	.40

litical liberalism were both positively associated with favorable attitudes toward exposure to sexual stimuli.

#### *Final Version of the Acceptance of Public Sexuality Scale*

A ten-item version of the scale was developed by omitting from the 11-item version the one item which did not appear to have obvious "face validity" with respect to measuring attitudes toward exposure to sexual stimuli: "An unmarried girl who gets pregnant should feel ashamed of herself." Several of the other items were reworded to control for agreement response set. This ten-item scale was in-

cluded in the last two questionnaire studies and had reliability estimates of .87 and .84 as indicated in Table 1. The item-to-scale minus the item correlations for the ten-item scale administered to samples 4 and 5 are presented in Table 4.

Three of the six construct validating measures administered to samples 1 and 2 were included in the questionnaire completed by the mothers of two children in sample 4. For these respondents the correlations between the ten-item version of the scale and TFI, Religiosity, and Modernity were  $-.71$ ,  $-.56$ , and  $.48$ , respectively. Thus the evidence for the construct validity of the response set bal-

anced ten-item scale is consistent with the validation analyses in which the 11-item version was used (see Table 3).

### *Discussion*

Evidence cited in the studies above suggests that both the longer and shorter versions of the measure of attitudes toward public or interpersonal exposure to sexual stimuli have acceptable reliability and are related in the predicted manner to the construct validating measures. The relatively small fluctuations across samples in the correlational indices of validity and reliability are encouraging, although it would certainly be desirable to carry out cross-validation studies using larger and more representative samples of the general population.

This type of cross-validation seems especially important with respect to the validity correlations. It may be that the Berkeley area married women and undergraduate psychology students who participated in this study have atypically internally consistent belief systems associated with relatively high levels of education. Since our respondents tend to be middle class or upper middle class, it would be particularly useful to extend research on this scale to samples with broader social class representation.

The Attitude Toward Public Exposure to Sexual Stimuli Scale may be useful to diverse groups of researchers and practitioners. Possible areas of application include: the study of modernization; the psychology of family planning; and the effects of sex education programs. A high correlation between the scale and traditional family ideology, and other related measures of modernism, adds to its theoretical interest. A decline in fundamentalist religious beliefs, an increase in "modernity" as measured by a scale such as Gough's, and a reduction in conservative beliefs appear to accompany a more tolerant attitude toward exposure to sexual stimuli. These beliefs and traits may all be part of the psychological changes that occur when urbanization, industrialization and increases in mass media and educational opportunities take place.

Several studies suggest that attitudes

toward sexual stimuli may be related to family planning behavior. In a representative sample survey of lower income mothers, Crawford (1973), found that the belief that "using birth control increases sexual pleasure" was more closely associated with use of a reliable method of contraception than any other perceived consequence of birth control. In clinical practice, pregnancy counselors have observed that young sexually active but unmarried women who refuse to practice birth control, and who become pregnant, appear to be reluctant to openly and consciously accept sexuality in themselves and others. The adoption of a method of contraception amounts to a conscious acknowledgement that the adopter plans to engage in sexual intercourse. It seems plausible that among sexually active young unmarried women, those with a more favorable attitude toward exposure to sexual stimuli will be more likely to engage in "premeditated" and self-designating contraceptive-adopting behaviors. A questionnaire study by Goldsmith, Gabrielson, Mathews, and Potts (1972) lends support to this hypothesis with the finding that among sexually active teenage girls, the contraceptors indicated greater acceptance of sexuality.

In addition to the use of this scale in the study of modernization and in family planning research and practice, it seems likely that it would be useful in research in the area of sex education. The items on the scale are fairly innocuous (especially those in the final shortened version) and thus might be more acceptable for measuring opinion related to these issues than would other sexual attitude measures. Thus this measure might prove useful in pre-post attitude change research in sex education and counseling programs.

Additional uses of this scale might include the study of ethnic and cultural group differences in acceptance of public expressions of sexuality. For example, anthropological studies and other evidence might lead one to predict that Irish Catholics would score low on the acceptance of public exposure to sexual stimuli scale (Kennedy, 1973).

In sum, a short, easily administered

scale has been developed which could prove useful in research and practice related to attitudes toward exposure to sexual stimuli. Acceptable reliability estimates were obtained and construct validating measures related predictably in helping to define and substantiate the interpretation of scale scores.

#### Reference Note

1. Faulkner, J. E., & DeJong, G. F. *Religiosity in S-D: An empirical analysis*. Paper presented at the American Sociological Association Convention, Chicago, 1965.

#### References

- Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. *The authoritarian personality*. New York: Harper, 1950.
- Calderone, M. It's society that is changing sexuality. *The Center Magazine*, 1972, 5, 58-68.
- Crawford, T. Beliefs about birth control: A consistency theory analysis. *Representative Research in Social Psychology*, 1973, 6, 53-65.
- Glock, C., & Stark, R. *Christian beliefs and anti-semitism*. New York: Harper & Row, 1965.
- Goldsmith, S., Gabrielson, I., Mathews, V., & Potts, L. Teenagers, sex and contraception. *Family Planning Perspectives*, 1972, 4, 32-38.
- Gough, H. G. *Personal values abstract from the California Psychological Inventory*. Palo Alto, Calif.: Consulting Psychologists Press, 1970.
- Hunt, M. *Sexual behavior in the 1970s*. New York: Dell, 1974.
- Kaufman, W. C. Status, authoritarianism, and anti-semitism. *American Journal of Sociology*, 1957, 62, 379-382.
- Kennedy, R. J., Jr. *The Irish*. Berkeley: University of California Press, 1973.
- Kerlinger, F. N. The social attitudes scale. In M. Shaw & J. Wright (Eds.), *Scales for the measurement of attitudes*. New York: McGraw-Hill, 1967.
- Kilpatrick, D. G. Dogmatism and personal sexual attitudes. *Psychological Reports*, 1968, 23, 1105-1106.
- Levinson, D., & Huffman, P. Traditional family ideology and its relation to personality. *Journal of Personality*, 1955, 23, 251-273.
- Lipton, M. A., & Greenwood, E. D. Statement by commission members. *The Report of the Commission on Obscenity and Pornography*. New York: Bantam Books, 1970.
- Reiss, I. L. The scaling of premarital sexual permissiveness. *Journal of Marriage and the Family*, 1964, 26, 688-698.
- Reiss, I. L. *The social context of premarital sexual permissiveness*. New York: Holt, Rinehart, & Winston, 1967.
- Schaefer, E. S., & Bell, R. Q. Development of a parental attitude research instrument. *Child Development*, 1958, 29, 339-361.
- Thorne, F. C. The sex inventory. *Journal of Clinical Psychology*, 1966, 22, 375-378.
- Wilson, W. C., & Abelson, H. I. Experience with and attitudes toward explicit sexual materials. *Journal of Social Issues*, 1973, 29, 19-39.
- Zuckerman, M. Reversed scales to control acquiescence response set in the parental attitude research instrument. *Child Development*, 1959, 30, 523-532.
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## Overinclusion and Transactional Thinking on the Object Sorting Test of Schizophrenic and Nonschizophrenic Patients

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*Summary:* Two aspects of "disordered thinking," overinclusion and transactional thinking were studied on the Object Sorting Test responses of 20 young schizophrenic patients and 20 comparable nonschizophrenic patients. Patients' parents were also studied for comparison. In addition, idiosyncratic responses from WAIS Comprehension items were assessed for comparison of another measure on another test. Transactional thinking and idiosyncratic responses were greater in schizophrenic patients. Conceptual overinclusion and bizarre responses also tended to be more frequent in schizophrenics, but behavioral overinclusion showed no differences.

Conceptual overinclusion was consistently correlated with transactional thinking and idiosyncratic responses, while behavioral overinclusion showed an inconsistent pattern. The differences were attributed to the differences in the specificity of measures of disordered thinking.

In view of the multiple theories on the nature of thought disorder in schizophrenia, it becomes important to raise the question as to whether different aspects of disordered thinking appear separately or are measures of the same disorder. The Object Sorting Test (OST), originally a measure of concrete and abstract thinking, has been adapted as a measure for assessing thought disorder in schizophrenia. Two theories of thinking disorder quite different in theoretical background have used scoring procedures on the OST to operationalize two aspects of thinking, overinclusion and transactional thinking. The study reported here compared the two scoring systems on the same OST administration to assess the degree of similarity and the differences in the two approaches to thought disorder. In addition, another aspect of disordered thinking, idiosyncratic response, was assessed using a different test, the subjects' responses to the WAIS Comprehension subtest, in order to evaluate whether factors specific to

the OST are sufficient to account for any similarities found or whether there is a general pattern of disordered thinking which carries over several different types of test.

An aspect of thinking hypothesized to be prominent if not central in schizophrenic thinking is "overinclusion," or what Cameron (1939) noted as the patient's difficulty in maintaining the usual conceptual boundaries and to a tendency to include in one's concepts elements which are not essential or else are irrelevant. Payne has used several performance tasks including the Object Sorting Test and reported evidence for overinclusion in the thinking of schizophrenics (Payne & Friedlander, 1962; Payne, Friedlander, Lavery, & Haden, 1963; Payne & Hewlett, 1960). Harrow and colleagues (Harrow, Himmelhoch, Tucker, Hersh, & Quinlan, 1972) distinguished three phenomena referred to as "overinclusion": (a) behavioral overinclusion, as in the number of objects included in an Object Sort; (b) conceptual overinclusion, or the quality of the subject's thinking; and (c) stimulus overinclusion, or the tendency to be distracted by irrelevant stimuli. Acute schizophrenic patients scored significantly higher on



both behavioral and conceptual overinclusion than severely disturbed nonschizophrenics. In a study of stimulus overinclusion, Harrow, Tucker, and Shield (1972) found that schizophrenics showed more stimulus overinclusion during the acute phase than nonschizophrenics and continued to show more stimulus overinclusion after the acute phase, but the absolute level of differences were relatively small.

Another conceptualization of schizophrenic thinking disorder is transactional thinking, or the cognitive disturbances derived from the distorted transactions within the family. Lidz and colleagues (Lidz, Cornelison, Fleck, & Terry, 1957a, 1957b, 1958; Lidz, Fleck, Alanan, & Cornelison, 1963) described the distortion of communications among various family members of schizophrenic patients, and suggested this contributed to the patient's distortion of the environment. Wynne and Singer (1963a, 1963b) and Singer and Wynne (1965a, 1965b) used projective tests, primarily the Rorschach, to suggest that distorted methods of communicating and thinking were present in family members of identified schizophrenic patients. Subsequent work by Wild (Note 1, Wild, Singer, Rosman, Ricci, & Lidz, 1965) focused on the transaction between the client and examiner on the Object Sorting Test. Wild and colleagues found that the criteria of attention disturbances and blurring of meaning that Singer and Wynne used could be reliably identified and scored on the Object Sorting Test. Recently we have used these scores to distinguish mothers and fathers of schizophrenics from parents of nonschizophrenic patients (Schultz, Quinlan, Schwartzman, Harrow, & Davies, Note 2).

Idiosyncratic or "bizarre" thinking has long been held to be a distinguishing feature of schizophrenic thinking, but often without an objectifiable definition (Adler & Harrow, 1973). Harrow, Tucker, and Adler (1972) found the responses of acute schizophrenics, in contrast to acutely disturbed nonschizophrenics, were significantly more idiosyncratic, even though the accuracy scores obtained on the Comprehension subtest were not significantly different.

The present study is a comparison of the conceptualizations of thought disorder in the OST responses of schizophrenic and nonschizophrenic psychiatric inpatients to assess, (a) do overinclusion and transactional thinking occur in the same patients, or are they different aspects of thought disorder, (b) which aspect of overinclusion on the OST, behavioral or conceptual overinclusion, is the better measure of thought disorder, (c) which aspect of disturbed thinking best separates schizophrenics from acutely disturbed nonschizophrenics, and (d) what are the relations, if any, with other aspects of thinking scoreable on the OST, e.g., bizarreness, concreteness, underinclusion, and on other tests of idiosyncratic responses? Thus, several presumably different aspects of disordered thinking were compared using different assessment procedures.

Data were available from mothers and fathers of the patients to allow extension of the questions into the patterns of thinking in parents of patients as well.

### Method

#### Subjects

Subjects include 20 acute schizophrenic patients (and their parents) and 20 acute nonschizophrenic patients (and their parents) admitted to the acute psychiatric inpatient services of several hospitals in the New Haven area whose parents agreed to participate in the study.<sup>1</sup> The two groups of parents and their children were matched as closely as possible on age and educational level. Except for these matching criteria, the sample was selected randomly from all available patients as soon after hospitalization as possible. The demographic data reported in Table 1 indicate no significant differences among groups. The schizophrenics were not significantly different for age, number of previous hospitalizations, presence of organic cerebral dysfunction (based on EEG and neurological examination), scores on the Bromet-Harrow

<sup>1</sup> In three cases in the nonschizophrenic group, the father was either deceased or had been divorced from the mother prior to hospitalization. No cases in which one parent refused were included (only one such refusal occurred).

Table 1  
Characteristics of Sample

	Schizophrenic			Nonschizophrenic		
	Patient	Father	Mother	Patient	Father	Mother
Number of subjects	20	20	20	20	17	20
Sex: Females	10			9		
Males	10			11		
Mean Age (Years)	18.3	47.5	45.4	17.3	49.8	45.9
Mean Education Level (Years)	12.1	13.9	13.1	11.3	14.3	13.6
Presence of:						
Thought Disorder	19			1		
Confusion	13			2		
Paranoid Ideas	13			1		
Delusions	12			1		
Inappropriate Affect	11			3		

revision of the Philips scale for premorbid adjustment (Harrow, Adler, & Hanf, 1974), or history of LSD use. Thus, by and large the patients in the two diagnostic groups were quite comparable except for symptoms related to schizophrenia.

### Procedure

The diagnosis of schizophrenia was established by dual criteria of: (a) diagnosis of board-certified senior psychiatrist and, (b) meeting the criterion for the diagnosis of schizophrenia on the New Haven Schizophrenic Index (NHSI), an automatic checklist designed to facilitate uniform criteria and replicability in the diagnosis of schizophrenia (Astrachan, Harrow, Adler, Brauer, Schwartz, Schwartz, & Tucker, 1972). The two criteria were completely in agreement, i.e., all patients diagnosed as schizophrenic met the NHSI criterion and none of the nonschizophrenics exceeded the NHSI criterion.

The Object Sorting Test materials and mode of administration correspond to those used by Harrow (Harrow, Himmelhoch, Tucker, Hirsch, & Quinlan, 1972). Each patient and his parents were seen

individually by the experimenter who was unaware of their diagnostic category. Each subject was administered six items of the Comprehension subtest of the WAIS (Items 3, 4, 8, 12, 13, and 14) to establish a test-taking set and to provide the measure of idiosyncratic responses. After a brief explanation of the materials and instructions, each subject was administered the Object Sorting Test.

Data from the six Comprehension items were coded for *idiosyncratic response*, which refers to responses peculiar to the individual and deviant with respect to conventional social norms, according to a manual developed by Adler and Harrow (1973). Data obtained from the Object Sorting Test were scored for: (a) *transactional thought disorder*, which includes fragmentation of attention, inability to maintain the role of subject, blurring of meaning, and pathological thought or language, according to a manual developed by Wild et al. (1965) and revised by Wild (Note 1); (b) *behavioral overinclusion*, the total number of objects sorted irrespective of the quality of thinking (Payne & Friedlander, 1962); (c)

Table 2

Overinclusion and Transactional Thinking Measures:  
Means and Analysis of Variance by Diagnostic Group

Variable	Mean Score			
	Schizophrenics ( <i>n</i> = 20)		Nonschizophrenics ( <i>n</i> = 20)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
OST				
Conceptual Overinclusion	3.05	1.60	2.25	1.09
Behavioral Overinclusion	47.60	47.19	40.10	23.89
Transactional Thinking	4.25	3.53	1.90	1.95
Underinclusion	1.50	0.67	1.35	0.57
Richness of Associations	1.65	0.85	1.75	1.04
Bizarreness	2.30	1.42	1.60	0.74
Concreteness	2.85	1.24	2.50	0.98
WAIS COMPREHENSION				
Idiosyncratic Response	5.45	2.85	2.90	2.23
Accuracy Score	11.85	4.88	14.55	6.23

*conceptual overinclusion*, which refers to the subject's tendency to include in his concepts elements which are not essential or else are irrelevant; (d) *bizarreness*, which refers to peculiar responses understandable only to the subject and strange or inappropriate behavior during the testing; (e) *richness of associations*, behavior indicating original, creative, and uncommon responses; (f) *concreteness*, which refers to an inability to see abstract dimensions in objects and a tendency to remain stimulus bound; and (g) *underinclusive thinking*, which includes the failure to sort objects, a tendency to make incomplete sortings, and a tendency to use the same dimension repeatedly as a categorizing principle. Each of these latter five measures was scored according to a manual developed by Himmelhoch, Hersh, Tucker, and Harrow (1973). Raters were blind to diagnosis and familial position (child, mother, father). Interrater reliabilities ranged from  $r = .81$  (concreteness) to  $r = .99$  (transactional think-

ing), with a median rater reliability of .93. In addition, to assure the comparability of transactional thinking ratings with the original manual, the 12 cases from Wild and colleagues (1965) were rated by one of the authors (KDS). A reliability of  $r = .87$  with Wild's scoring was obtained.

### Results

As a preliminary check on whether the sex of the patient was related to the scores, Analyses of Variance for sex by diagnosis by family member were performed. Only one significant main effect emerged (females were higher on bizarreness,  $p < .05$ ) and no significant interactions were found. The data are presented first for differences between diagnostic groups, then for correlations among the patients and among each of the parents.

Of the Object Sorting Test measures (see Table 2) only the transactional thinking score significantly discriminates between the schizophrenics and nonschizo-



phrenic patients ( $F[1,38]=6.45, p<.015$ ). The scores for bizarreness and for conceptual overinclusion approach the level of significant difference ( $F[1,38]=3.65, p<.07$  for bizarreness;  $F[1,38]=3.25, p<.08$  for conceptual overinclusion). A highly significant difference is obtained on the idiosyncratic response score for the WAIS Comprehension subtest ( $F[1,38]=9.41, p=.004$ ). Schizophrenic patients had significantly more responses that involved unusual elaboration, even though the scores were not significantly poorer in terms of correctness of response. The score for behavioral overinclusion, the number of objects included in the sorts, is not significantly different between schizophrenic and nonschizophrenic patients.

In Table 3, three scores, behavioral and conceptual overinclusion and transactional thinking, are compared against other measures from the OST and Comprehension. For comparison, the correlations for fathers and mothers are presented as well. Within patients, conceptual overinclusion is highly correlated with transactional thinking, while behavioral overinclusion is only moderately correlated. Behavioral and conceptual overinclusion are correlated at an intermediate level. Of the other scores examined, transactional thinking and conceptual overinclusion were highly correlated with bizarreness and transactional thinking correlated with idiosyncratic thinking. Behavioral overinclusion shows no significant correlations with other variables.

Within the *parents* of the patients, the pattern of correlations differ: behavioral overinclusion correlates positively and significantly at or above the level of conceptual overinclusion with transactional thinking, with richness of associations, with bizarreness of response (in mothers) and idiosyncratic responses and comprehension score (in fathers) and significantly in the negative direction with underinclusion. The behavioral overinclusion measure appears to be related to indices of thought disorder in the parents, but not in patients. In a previous paper (Schultz, Quinlan, Schwartzman, Davies, & Harrow, Note 2) we reported no significant differences among family mem-

bers except for fathers having higher scores for underinclusion. Thus, the present findings suggest that different aspects of disordered thinking do occur together in a way that could be termed a "thought disorder," but the status of behavioral overinclusion is in doubt.

### Discussion

The data lend some support for use of the transactional thinking scoring as the best measure of thought disorder on the OST, while raising some questions about overinclusion and its relationship to other variables. While the degree of differences in strength of association of transactional thinking and overinclusion with schizophrenia and other thinking disorder scores is at times slight, transactional thinking is the most consistent OST index of thought disorder across a variety of scores. The strongest index of disturbed thinking in the present study, idiosyncratic response, is from the WAIS Comprehension answers. Given the nature of Comprehension — understanding social conventions and proverbs — the results are consistent with a view of thought disorder held by many workers such as Singer and Wynne and Adler and Harrow that disordered thinking occurs frequently in a social, interpersonal framework. Another possibility may be that tests such as Comprehension and proverbs require lengthier, nonpracticed elaborations that allow more opportunity for idiosyncratic thinking to emerge in contrast to tests which require only brief, well practiced verbalizations.

The data on overinclusion require further elaboration. Within *patients*, conceptual overinclusion is highly correlated with other indices of thinking disorder while behavioral overinclusion is at best only weakly correlated. Within *parents*, however, *behavioral* overinclusion correlates at least as well with other measures of disordered thinking such as conceptual overinclusion. Any conclusions drawn from the data must be tentative in view of the possibilities that extraneous factors (e.g., different ranges of scores) may have produced the differences in correlations. Parents of patients are both older and are not defined as patients.



Correlations with Transactional Thinking,  
Overinclusion and Idiosyncratic Response in Patients and Their Parents

Variable	Patients ( <i>n</i> = 40)			Fathers ( <i>n</i> = 37)			Mothers ( <i>n</i> = 40)		
	TT	BO	CO	TT	BO	CO	TT	BO	CO
Transactional Thinking (TT)									
Behavioral Overinclusion (BO)	.33*			.49**			.67***		
Conceptual Overinclusion (CO)	.64***	.49**		.43**	.45**		.47**	.62***	
Richness of Association	-.03	-.06	-.17	.25	.52***	.12	.10	.38*	.08
Bizarreness	.67***	-.08	.60***	.41*	.18	.76***	.69***	.42**	.51**
Concreteness	.17	.30	.21	.09	.02	.37*	.16	.13	.26
Underinclusion	-.13	-.29	-.20	-.43***	-.63***	-.47***	.01	-.34*	-.33*
WAIS Comprehension:									
Idiosyncratic Response	.45**	-.18	.17	.42***	.45**	.50**	.17	.24	.09
Accuracy Score <sup>a</sup> :	-.24	.24	-.14	-.04	.35*	-.07	.03	.21	.19

\*  $p < .05$ .\*\*  $p < .01$ .\*\*\*  $p < .001$ .<sup>a</sup> Scored for correctness of response according to WAIS Manual.

If further research comparing older and younger patients yields similar findings, some of the discrepancies in findings in the research on overinclusion may be explainable as due to age differences in styles of disordered thinking.

Another way of conceptualizing the data from this study is to examine the transactional thinking scoring system. Quite diverse signs of disordered thinking are incorporated under "transactional thinking disturbances." It may be that this broader-range instrument may pick up the kinds of thinking that are scored in one instance as behavioral overinclusion, in another as bizarreness, and yet another as thinking score shifts. Thus, the transactional thinking would be more consistent across different age groups even though the nature of the specific aspects of disordered thinking shifts. Further work with older as well as younger patients and families would profitably include both "broad" and "narrow" indices of disordered thinking.

The OSI, a relatively brief, reliably scorable instrument appears to be useful for a broad variety of approaches to thinking disorder. The Comprehension subtest, presumably a measure of intelligence, also yields important information on disordered thinking when the quality as well as correctness of the response is considered.

#### Reference Notes

1. Wild, C. Scoring transactional thought disorder on the Goldstein-Scheerer Object Sorting Test. A revised manual. Unpublished manuscript, Massachusetts Department of Mental Health, 1972.
2. Schulz, K. D., Quinlan, D. M., Schwartz, M., Harrow, M., & Davies, R. K. Thinking disorders in schizophrenia and in normal patients and normal families. Paper presented to the 33rd Annual Convention of the American Psychological Association, Chicago, August 31, 1975.

#### References

- Adler, D., & Harrow, M. Manual for assessing components of idiosyncratic thought responses. ASIS NAPS #02191, pp. 1-20. Macintosh Publications, New York, 1973.
- Avruchian, B. M., Harrow, M., Adler, D., Brauer, I., Schwartz, A., Schwartz, C., & Tucker, G. A checklist for the diagnosis of schizophrenia. *British Journal of Psychiatry*, 1972, 12, 429-439.
- Cammer, S. Schizophrenia: a new paradigm. *Journal of the American Academy of Child and Adolescent Psychiatry*, 1970, 9, 107-110.
- Harrow, M., Adler, D., & Hunt, I. Abstract and concrete thinking in schizophrenia. *Archives of General Psychiatry*, 1974, 31, 27-33.
- Harrow, M., Himmelhoch, J., Tucker, G., Herish, J., & Quinlan, D. Overinclusion thinking in acute schizophrenic patients. *Journal of Abnormal Psychology*, 1972, 79, 161-168.
- Harrow, M., Tucker, G. J., & Adler, D. Concrete and abstract thinking in acute schizophrenia. *Archives of General Psychiatry*, 1972, 26, 435-441.
- Harrow, M., Tucker, G. J., & Shied, P. Schizophrenic thought disorder: a new paradigm. *Archives of General Psychiatry*, 1972, 26, 40-45.
- Himmelhoch, J., Herish, J., Tucker, G., & Harrow, M. Manual for assessing transactional thought disorder. *Object Sorting Test*. ASIS NAPS #02191, p. 1-20. Macintosh Publications, New York, 1973.
- Lidz, T., Cornelison, A., Fleck, S., & Terry, D. The intrafamilial transmission of the schizophrenic patient. I. The father. *Psychiatry*, 1957, 20, 329-342 (a).
- Lidz, T., Cornelison, A., Fleck, S., & Terry, D. The intrafamilial transmission of the schizophrenic patient. II. Maternal transmission and maternal role. *American Journal of Orthopsychiatry*, 1957, 27, 241-248 (b).
- Lidz, T., Cornelison, A., Fleck, S., & Terry, D. The intrafamilial transmission of the schizophrenic patient. VI. The transmission of the maternal role. *Archives of Neurological Psychiatry*, 1958, 79, 65-75.
- Lidz, T., Fleck, S., Martin, Y., & Cornelison, A. Schizophrenic patients and their siblings. *Psychiatry*, 1961, 26, 1-18.
- Packer, R. W., & Lander, D. Schizophrenia: I. A review of the literature. *Psychiatry*, 1962, 25, 367-387.
- Packer, R. W., Lander, D., Lander, S. G., & Lander, P. J. The intrafamilial transmission of chronic schizophrenia and its response to "Prozac." *British Journal of Psychiatry*, 1975, 127, 109-120.
- Packer, R. W., & Hewitt, J. H. C. Schizophrenia: II. A review of the literature. *Psychiatry*, 1962, 25, 387-407.
- Singer, M. I., & Weiner, I. C. The intrafamilial transmission of schizophrenia. *Archives of General Psychiatry*, 1965, 12, 187-197.
- Singer, M. I., & Weiner, I. C. The intrafamilial transmission of schizophrenia. II. A review of the literature. *Psychiatry*, 1965, 30, 212-228.
- Wild, C., Singer, M., & Weiner, I. C. The intrafamilial transmission of schizophrenia. *Archives of General Psychiatry*, 1965, 12, 197-207.

Table 3

Correlations with Transactional Thinking,  
Overinclusion and Idiosyncratic Response in Patients and Their Parents

Variable	Patients ( <i>n</i> = 40)			Fathers ( <i>n</i> = 37)			Mothers ( <i>n</i> = 40)		
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#### Reference Notes

1. Wild, C. *Scoring transactional thought disorder on the Goldstein-Scheerer Object Sorting Test: A revised manual*. Unpublished manuscript, Massachusetts Department of Mental Health, 1972.
2. Schultz, K. D., Quinlan, D. M., Schwartzman, M., Harrow, M., & Davies, R. K. *Thinking disorders in schizophrenic and non-schizophrenic patients and normal families*. Paper presented to the 83rd Annual Convention of the American Psychological Association, Chicago, August, 31, 1975.

#### References

- Adler, D., & Harrow, M. *Manual for assessing components of idiosyncratic or bizarre responses*. ASIS, NAPS #02191, pp. 1-20, Microfiche Publications, New York, 1973.
- Astrachan, B. M., Harrow, M., Adler, D., Brauer, L., Schwartz, A., Schwartz, C., & Tucker, G. A checklist for the diagnosis of schizophrenia. *British Journal of Psychiatry*, 1972, 121, 529-539.
- Cameron, N. Schizophrenic thinking in a problem-solving situation. *Journal of Mental Science*, 1939, 85, 1012-1035.
- Harrow, M., Adler, D., & Hanf, E. Abstract and concrete thinking in schizophrenia during the pre-chronic phases. *Archives of General Psychiatry*, 1974, 31, 27-33.
- Harrow, M., Himmelhoch, J., Tucker, G., Hersch, J., & Quinlan, D. Overinclusive thinking in acute schizophrenic patients. *Journal of Abnormal Psychiatry*, 1972, 79, 161-168.
- Harrow, M., Tucker, G. J., & Adler, D. Concrete and idiosyncratic thinking in acute schizophrenic patients. *Archives of General Psychiatry*, 1972, 26, 433-439.
- Harrow, M., Tucker, G. J., & Shield, P. Stimulus overinclusion in schizophrenic disorders. *Archives of General Psychiatry*, 1972, 27, 40-45.
- Himmelhoch, J., Hersch, J., Tucker, G., & Harrow, M. *Manual for assessment of selected aspects of thinking: Object Sorting Test*. ASIS/NAPS #02206, p. 1-25, Microfiche Publications, New York, 1973.
- Lidz, T., Cornelison, A., Fleck, S., & Terry, D. The intrafamilial environment of the schizophrenic patient: I. The father. *Psychiatry*, 1957, 20, 329-342. (a)
- Lidz, T., Cornelison, A., Fleck, S., & Terry, D. The intrafamilial environment of the schizophrenic patient: II. Marital schism and marital skew. *American Journal of Psychiatry*, 1957, 114, 241-248. (b)
- Lidz, T., Cornelison, A., Fleck, S., & Terry, D. The intrafamilial environment of the schizophrenic patient: VI. The transmission of irrationality. *Archives of Neurological Psychiatry*, 1958, 79, 305-315.
- Lidz, T., Fleck, S., Alanen, Y., & Cornelison, A. Schizophrenic patients and their siblings. *Psychiatry*, 1963, 26, 1-18.
- Payne, R. W., & Friedlander, D. A short battery of simple tests for measuring overinclusive thinking. *Journal of Mental Science*, 1962, 108, 362-367.
- Payne, R. W., Friedlander, D., Laverty, S. G., & Haden, P. Overinclusive thought disorder in chronic schizophrenics and its response to 'Proketazine'. *British Journal of Psychiatry*, 1963, 109, 523-530.
- Payne, R. W., & Hewlett, J. H. G. Thought disorder in psychotic patients. In H. J. Eysenck (Ed.), *Experiments in personality*. London: Routledge and Kegan Paul, 1960.
- Singer, M. T., & Wynne, L. C. Thought disorder and family relations of schizophrenics: III. Methodology using projective techniques. *Archives of General Psychiatry*, 1965, 12, 187-200. (a)
- Singer, M. T., & Wynne, L. C. Thought disorder and family relations of schizophrenics: IV. Results and implications. *Archives of General Psychiatry*, 1965, 12, 201-212. (b)
- Wild, C., Singer, M., Rosman, B., Ricci, J., & Lidz, J. Measuring disordered styles of thinking. *Archives of General Psychiatry*, 1965, 13, 471-476.



- Wynne, L. C., & Singer, M. T. Thought disorder and family relations of schizophrenics: I. A research study. *Archives of General Psychiatry*, 1963, 9, 191-198. (a)
- Wynne, L. C., & Singer, M. T. Thought disorder and family relations of schizophrenics: II. A classification of forms of thinking. *Archives of General Psychiatry*, 1963, 9, 199-206. (b)

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## Some Personality Patterns and Dimensions of Male Alcoholics: A Multivariate Description

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**Summary:** The assumption that alcoholics form a homogeneous population has been found to be questionable. Recent research has been done to empirically define possible personality subtypes of alcoholics. This study extended the typological work done previously by Goldstein and Linden (1969a) and Whitelock, Overall, and Patrick (1971). They each found four alcoholic subtypes, three of which replicated across studies. For this research, MMPI profiles of 208 male alcoholics were submitted to a hierarchical clustering procedure. Seven subtypes were found. These results were compared to the results of the prior two studies, in addition to actuarial MMPI types previously delineated in clinical settings. Using a hierarchical factor analysis, these data were analyzed to determine the higher order interrelationships among MMPI scales for this alcoholic sample. These results were discussed, especially in terms of the implications for treatment and further research in alcoholism.

Typically, treatment of alcoholism has been based upon the assumption that alcoholics formed a relatively homogeneous population. Although alcoholics do present the same major symptoms of alcohol abuse, two lines of research have led to a questioning of this assumption. First, treatment modalities have failed to provide an intervention that has been effective for alcoholics in general (Bourne & Fox, 1973). Second, studies have failed to discern a personality type specific to alcoholism (Brown, 1950; Sutherland, Schroeder, & Tordella, 1950; Syme, 1957). In an effort to examine the homogeneity assumption more critically, researchers have been attempting to identify distinct personality subtypes within alcoholic samples. To control for subjective clinical judgment and small sample biases, objective methods were applied to this research. The multivariate methods of numerical taxonomy (Sneath & Sokol, 1973) were used to examine large samples of objective personality test data collected on alcoholics. It was found that, indeed, alcoholic personality subtypes did exist (at least to the extent that differences on personality measures reflect true personality differences).

Reviewing these taxonomic or typological studies, Lawlis and Rubin (1971) and Nerviano and Gross (1973) found various alcoholic personality subgroups

using Cattell's Sixteen Personality Factor Questionnaire (16PF). Employing the Differential Personality Inventory (DPI), Partington and Johnson (1969) and Skinner, Jackson and Hoffman (1974) also found numerous subtypes. Nerviano (1976) in a follow-up to his original article, delineated alcoholic personality subtypes using Jackson's Personality Research Form (PRF). Eshbaugh, Tosi, and Wherry (Note 1) also obtained similar results with the PRF in a validation study. Finally, Goldstein and Linden (1969a) and Whitelock, Overall, and Patrick (1971) found subtypes using the Minnesota Multiphasic Personality Inventory (MMPI). Taxonomic research strongly supports the notion that alcoholics can be classified or subtyped along certain personality dimensions.

This research effort extends the work of Goldstein and Linden (1969a) and Whitelock, Overall, and Patrick (1971). In the present study, a group of MMPI profiles of hospitalized male alcoholics were analyzed by means of taxonomic procedures. Additionally, a hierarchical factor analysis (Rummel, 1970) was performed on the data to permit an examination of possible higher order factors that may underly alcoholism.

Typological replication is important in personality research for several reasons. First, the validity of any personality type

cannot be accepted until the particular personality type has been observed (clinically or statistically) over time, locations, samples, and methods. Second, different typological procedures tend to define different clusters of elements. Thus no one numerical taxonomic procedure can be considered superior in the development of a typology (Sneath & Sokol, 1973). Therefore, their "idiosyncratic" effect must be considered (Everitt, 1972; Everitt, Gourlay, & Kendell, 1971). Moreover, different similarity indices used to assess profile similarity have been found to yield different results on the same data (Carroll & Field, 1974; Helmstadter, 1957; Eshbaugh, Tosi, & Wherry, Note 1).

Hierarchical factor analysis is a method describing the total set of data. In contrast to statistical typologies which reduce data to subsets of individuals, it permits a description of the variables common to the total sample. In this study, hierarchical factor analysis was useful in making descriptive statements about possible underlying factors in alcoholism on a higher order basis. This procedure was particularly important since a search of the literature failed to find a single hierarchical factor analytic study of the MMPI scales using a male alcoholic sample.

### Sample Method

The MMPI was administered to 208 males over a period from 1974 to 1976. They were admitted to the alcoholic inpatient unit at Riverside Methodist Hospital, Columbus, Ohio. All were diagnosed alcoholic. Their ages ranged from 17 to 73 years, the mean age was 49 years. The sample was comprised of males primarily of middle-class socioeconomic status, with a mean income of \$15,646. The income figure did not include persons who were retired, disabled, or unemployed.

### Analysis

*Part 1.* The total sample of 208 was randomly divided into subsamples of 69, 69, and 70 for separate typological analyses. For each subsample, a 69×69 (or 70×70) lower triangular matrix was computed. Each element of this matrix was

the profile similarity index

$$D = \sqrt{\sum d^2}$$

between every pair of MMPI profiles (using *K*-uncorrected *T* scores). The *d* was the distance in Euclidian space between each of the 13 MMPI scales for each pair of persons. This particular index was chosen for its ability to account for all profile information of shape, elevation and scatter (Cronbach & Gleser, 1953; Nunnally, 1962); and for its ability to correctly discern similar profiles (Carroll & Field, 1974).

All three matrices were submitted to Johnson's (1967) Hierarchical Clustering Scheme - maximum method (HCS-max). Hubert's (1972, 1973, 1974) method was employed to discern maximally distinct groups. The HCS-max procedure was chosen since it differs significantly from the other two methods used previously. Whitlock et al. (1971) used oblique cluster-oriented factor analysis, while Goldstein and Linden (1969a) used Lorr's (Lorr & Radhakrishnan, 1967) TYPOL method. It was important to use a different method because "cluster analysis is beset with problems" (Everitt, 1972, p. 143). Therefore, it was desirable to use the different method to control for possible biases introduced by the clustering algorithm itself (see Everitt et al., 1971). In addition, HCS-max was adapted for other reasons. First, it is based upon a rank ordering of data (of the *D* index) and therefore eliminated possible objections to scaling. Secondly, hierarchical taxonomic procedures in general and HCS-max in particular, are well researched and have proved to yield viable typologies (Cormack, 1971; Fisher & Van Ness, 1971; Hubert & Schultz, 1975; Sneath & Sokol, 1973). Finally HCS-max, in comparison to other procedures, tends to yield smaller groups (Goldstein & Linden, 1969a). This latter point seemed important in attempting to find small groups that other methods might have overlooked.

In each of the HCS-max analyses, only groups of four or more profiles were kept for further analyses, as suggested by Lorr et al. (1963). Wherry's (Note 2) Prefix procedure was employed to assure that all individual profiles in each group belonged to that group, and profiles that were not grouped should in fact, not

belong to a group. (If profiles were found to belong or not belong the modification was made.)

Mean centroid profiles for all groups in the three analyses were computed and plotted. If highly similar mean centroid profiles were found in two of three of the HCS-max analyses (using visual inspection and discriminant analysis), they were considered stable and merged to be kept for further analysis. If a mean centroid profile in one HCS-max analysis did not occur in either of the two other HCS-max analyses it was deleted. This use of three subsamples instead of the traditional two, and a "two out of three" replication rule was unusual but justifiable. The particular HCS-max program was written to enter a maximum of 99 cases. Rather than deleting some profiles or rewriting the program, three subsamples were formed. Using smaller subsamples, however, meant that finding groups of  $n > 4$  profiles would be less probable. Therefore the "two of three" replication rule was adopted to provide ample opportunity for final groups to emerge. Although this was a limitation of this study relative to past research it was believed to be a viable alternative.

Mean centroid profiles were finally computed for the total sample. Discriminant analysis (Tatsuoka, 1971) was used to assure that the final groups were significantly different.

**Part 2.** The entire sample of 208 MMPI profiles was submitted to Wherry's (Note 2) hierarchical factor analysis. This procedure initially does a common factor analysis (Rummel, 1970), and is rotated orthogonally to a Varimax solution (Kaiser, 1958). Groups of variables on these factors are then in turn used for analysis by Thurston's multiple group method (Harman, 1967) resulting in higher order factors. These resulting factors, if statistically feasible, are in turn reanalyzed by the multiple group method, yielding an even higher order factor(s). This procedure is continued until no further higher order factors can be statistically defined. The squared multiple correlation (SMC) was used as the initial communality estimate, as recommended by Wrigley (Note 3) and Rum-

mel (1970, p. 317).

### Part 1

### Results

The final typological analysis yielded seven personality types that were significantly different ( $p < .001$ ). Of the total sample of 208, 48.5 percent, or 101 profiles were clustered. This percent of classified profiles was similar to that of the previous typological studies of alcoholic personalities, and was considered satisfactory. Since relatively "pure" profile types were desired the remaining profiles were not classified to keep the original mean profiles intact. The mean profile for each group was computed and profiled (see Figure 1).

The first group, Type A, contained 28 profiles ( $M$  age = 45.9). Type A was associated with a 2-4-7 MMPI profile code. It was found to be remarkably similar to Pattern III reported by Whitelock et al. (1971). One minor difference was that Whitelock's Pattern III showed a somewhat higher elevation on scale  $Pt$ . Also, the MMPI profile code (2-4-7) was observed by Gilbertstadt and Duker (1965). Based upon their actuarial types, the 2-4-7 configuration was associated with heavy drinking; acting-out with subsequent guilt and remorse; and self-blame and projected blame. Typical diagnoses for the 2-4-7 profile were "anxiety reaction with alcoholism in passive-aggressive personality; "depressive reaction with alcoholism"; and "passive-aggressive personality with alcoholism" (Gilberstadt & Duker, 1965, pp. 50-62).

Type B of this study ( $n = 13$ ;  $M$  age = 42.3 years), was a 4-9 configuration. The 4-9 MMPI code was similar to Cluster Type IV reported by Goldstein and Linden (1969a). Marks, Seeman and Haller (1974) and Gilbertstadt and Duker (1965) also observed this 4-9 profile. The two MMPI codebooks listed heavy drinking as symptomatic of persons scoring this profile. Other symptoms associated with this profile were hostile rebelliousness, immaturity, impulsivity, superficial relationships, and low oral frustration, among others. Diagnoses tended to be antisocial personality or emotionally unstable personality.

The next group, Type C ( $n = 18$ ,  $M$  age



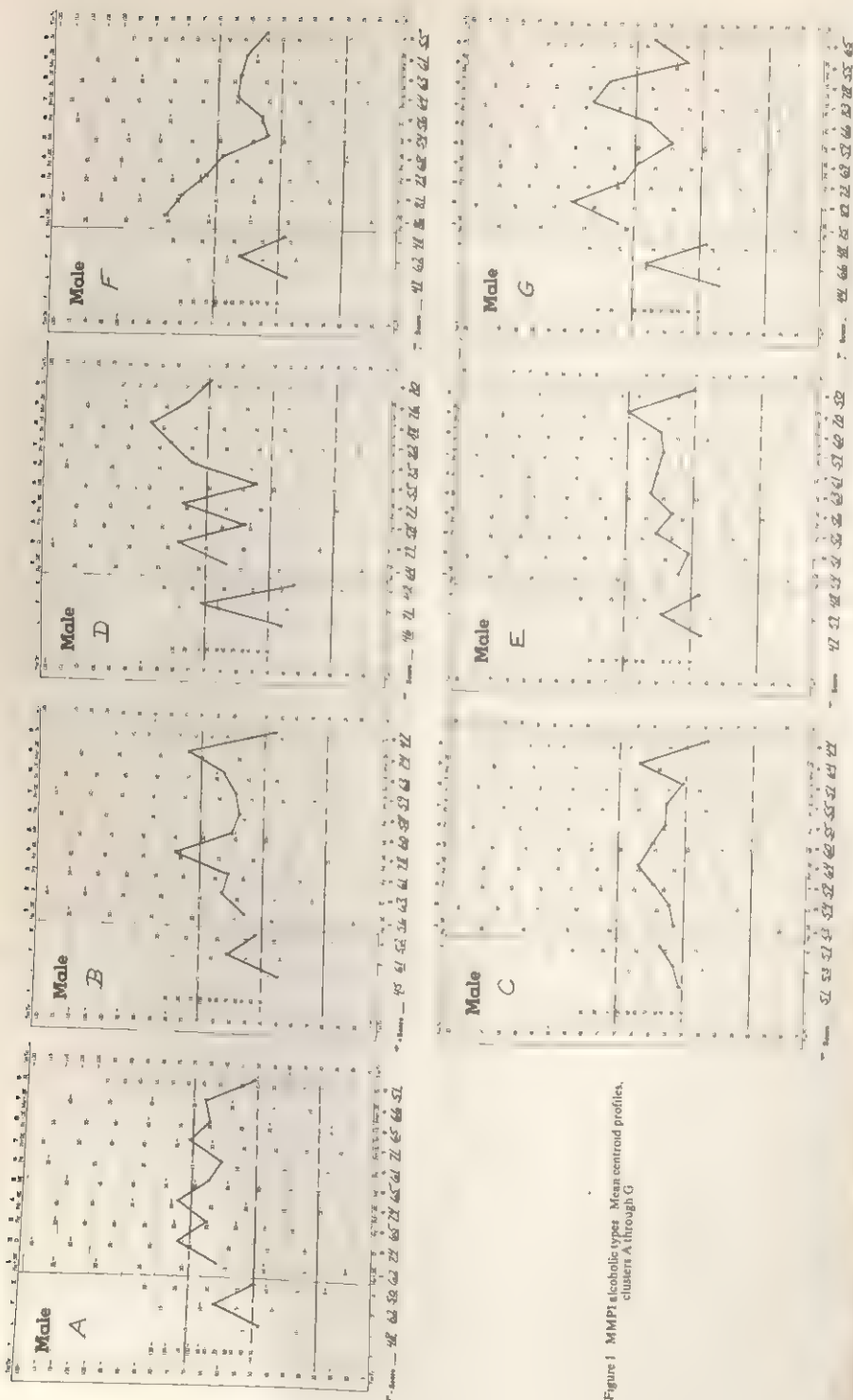


Figure 1 MMPI alcoholics types. Mean centroid profiles, clusters A through G

= 42.4 years) was another 4-9 configuration, but with less elevation. Type C was remarkably similar to Type B, but with some important variations. When compared to Type B, Type C evidenced less elevation on scales *Pd* and *Ma*; and *F*, *D*, *Sc* and *Si*; and more elevation on *K*. This would suggest a tendency toward a more compensated type of personality, who was more defensive and socially outgoing, and with much less subjective distress and/or psychopathology. Nonetheless, both types B and C seemed to be associated with excessive alcohol use.

Type D, containing 8 profiles with a mean age of 48.7 years, was somewhat similar to the Type II of Whitelock et al. (1971). This type was also reported in Gilberstadt and Duker, the 8-2-4(7) Type (1965, p. 75). These latter authors suggested a diagnosis of paranoid personality. This profile, they indicated, was associated with such symptoms as heavy drinking, inferiority feelings, hostility, restlessness and paranoid trends, as well as anxiety and depression. Notable "cardinal features" were the labels "oral, dependent, severe alcoholic." (p. 76).

The fifth group found in this study, Type E ( $n = 13$ ,  $M$  age = 49.4 years) was not found by the prior two MMPI typological studies. Nonetheless, it was found in Gilberstadt and Duker (1965) and Lachar (1974). Both associated this profile, at least in many cases, with heavy drinking. While Gilberstadt and Duker (1965, p. 85) suggested manic-depressive reaction, manic type, Lachar (1974, p. 119) suggested hypomania. Both codebooks described this character disorder as generally showing symptoms of expansiveness, restlessness and impulsivity; hyperactivity of thought and action, and low frustration tolerance.

Type F ( $n = 11$ ,  $M$  age = 50.7) did not replicate any types from the previous two studies. However, as in Type E, it was highly similar to an actuarial type reported in Gilberstadt and Duker (1965, p. 27), and Lachar (1974, p. 73). Again, heavy drinking was typically associated with this profile; as well as psychophysiological symptoms, nervousness, hostility, depression, etc. The most descriptive diagnosis was "personality trait disturbance

with alcoholism, anxiety, depression, and psychophysiological reaction" (Lachar, 1974, p. 73).

The final group, Type G ( $n = 10$ ,  $M$  age = 46.1 years) compared favorably to Goldstein and Linden's (1969a) Cluster Type II. This type was also found in Gilberstadt and Duker (1965), Lachar (1974), and Marks, Seeman and Haller (1974). However, in the clinical description of these actuarial types, heavy drinking was not listed as a cardinal feature. However, since this was "one of the most frequent profile types among psychiatric patients" (Lachar, 1974, p. 58), it is conceivable that drinking is associated with some of the profiles, but not in sufficient numbers to be noteworthy in the general psychiatric population. The clinical symptomatology described included depression, anxiety, and nervousness; strong obsessionalism and over-ideationalism; and low self-esteem with feelings of hopelessness. With this psychoneurotic make-up, and with replication of the type from two different alcoholic studies, it would seem reasonable to conclude that this may be a stable alcoholic personality subtype.

#### Part 2

The hierarchical factor analysis of the 13 MMPI scales yielded seven orthogonal (independent) factors. One third order factor (denoted 1001), two second order factors (101, 102) and four primary factors (1, 2, 3, 4) were found. This would indicate seven possible personality dimensions of alcoholism across three different levels of hierarchical analysis. In all, 65% of the total test variance was explained by these factors. The results of the analysis are in Table 1.

The third order factor, 1001, which accounted for 23% of the variance, revealed the most general, higher order relationship among the variables relative to this sample. This should represent the most global description of the domain of observed personality variables underlying alcoholism. Indeed, this factor did seem to represent general symptomatology. Eleven of the 13 scales loaded substantially on this factor, most notably *Sc*, *Pt*, *F*, *D*, and *Pa*. This indicated the severity of alcoholism and its symptoms in general. However, alcoholism also

Table 1

## Hierarchical Factor Analysis of the MMPI

MMPI Scale	Factor							h <sup>2</sup>
	1001	101	102	1	2	3	4	
	-.25	.04	.23	-.02	.10	.38	-.03	.27
	.60	.16	-.29	.34	.24	-.10	-.02	.65
	-.35	.24	.51	.23	-.13	.69	.04	.99
	.49	.51	.14	.01	-.04	-.03	.22	.57
	.57	.47	.05	-.26	.19	-.14	.21	.72
	.41	.66	.36	.00	-.35	-.02	.36	.99
	.43	.34	.03	.35	-.09	.05	.11	.45
	.12	.02	.08	.09	-.10	-.14	.03	.06
	.56	.20	-.22	.32	.16	-.08	.02	.54
	.68	.40	-.11	.10	.26	-.06	.10	.73
	.71	.34	-.19	.40	.25	.03	.03	.88
	.33	-.03	-.28	.72	-.28	-.15	-.03	.81
	.40	.14	-.16	-.43	.59	-.12	.00	.75
Percent of Variance	23%	11%	6%	10%	7%	6%	2%	65%

seems to generally include the more neurotic and characterological types of symptoms, as seen by the other scales that load on this factor: *Hs*, *Pd*, *Hy*, *Si*, *K* (in a negative direction) and *Ma*. Thus, it could appear that alcoholics tended to present a multiplicity of symptoms, traits, disorders, etc. of varying degrees of severity. This would also suggest that the neuroses and the character disorders seem well represented in this alcoholic sample, and possibly the psychoses. Since factor 1001 was so comprehensive, it was labeled "General Alcoholism Psychopathology."

The first second order factor, 101, accounted for 11% of the variance. It seemed to represent a secondary, but higher order

relationship among the variables commonly associated with neurosis. Scales loading most prominently on this factor were *Hy*, *Hs*, *D* and *Pt*, in that order, with *Pd* and *Sc* also showing moderate loadings. This factor suggested a neurotic type of component underlying alcoholism with a tendency toward a personality trait disturbance and unusual thinking. It should be noted that the *Hy*, *Hs*, and *D* configuration form a "conversion V" (Dahlstrom, Welsh, & Dahlstrom, 1968; Lachar, 1974), implying a hysteroid type. Factor 101 was labeled "Alcoholism-Hysteroid Neurotic."

The next second order factor was Factor 102 which accounted for 6% of the variance. Inspection of Table 1 revealed

only two loadings of significant magnitude, *K* and *Hy*. The *K* scale tends to measure a person's defensiveness and guardedness, indicating a denial mechanism (Lachar, 1974, p. 3). The *Hy* scale also measures denial and in addition, measures repression (Marks, Seeman, & Haller, 1974). This indicated that a feature of alcoholism was not only denial, but also repression of a hysteroid type. This hypothesis was tenable in view of the fact that all other scales, except *L*, received a very low to negative loading. Implied was that all symptomology is denied/repressed. The very moderate, positive loading on Scale *L* can be explained since it was intended originally to measure what the *K* scale now measures (Dahlstrom et al. 1967). Factor 102 was thus labeled "Alcoholism Defenses-Hysteroid."

The next four factors found were primary factors. They essentially were the independent components on the primary level that remained when higher order relationships were extracted. The first of these factors, 1, was indicative of an acting-out syndrome. The *Ma* scale loaded highly in this factor, with moderate loadings being represented by scales *Si* (in a negative direction), *Sc*, *Pd*, *F*, and *Pa*. This factor was an element seemingly associated with hypomania, and was further reflected in the high but negative *Si* loading. The symptoms measured by *Sc* (i.e., social alienation), *Pd* (i.e., acting-out of impulses), *F* (maladjustment), and *Pa* (paranoid symptoms) were consistent with hypomania. Further credence was added to this interpretation by the expected negative loading on scale *D*, since hypomania is hypothesized to be a defense against depression (Arieti, 1959). Thus, Factor 1 was denoted "Alcoholism-Hypomania." It accounted for 10% of the total test variance.

Factor 2 was responsible for 7% of the test variance. The most prominent loading was on scale *Si* reflecting social introversion. Scale *Hy* was also prominent in a negative direction, suggesting a lack of denial/repression, which was theoretically sound. Thus, it seemed that social introversion without defensiveness was a feature of alcoholism. This factor then was labeled "Alcoholism-Social Intro-

version."

Factor 3, accounting for 6% of the variance, was represented primarily by scale *K* and secondarily by scale *L*. All other scales were very near zero, including scale *Hy*. This factor appeared to represent the defense of denial, without the histrionic trend of repression. The factor was, therefore, named "Alcoholism Defensiveness-Denial."

The final primary factor, 4, represented only 2% of the total variance. Its only significant loading was on scale *Hy*, although scales *Hs* and *D* were somewhat represented. All other scales were very near zero. This factor resembled the secondary factor 101, which reflected the neurotic type of histrionic defenses, but without the overt denial (low scale *K*). Thus, it was labeled "Alcoholism Defenses-Repression."

One may question the low percent of variance accounted for by some of the second and third order factors. This was essentially due to their being "cleaned up factors." These factors were the residual or remaining factors after a higher order factor(s) was extracted. Thus, the variances represent what has remained after variance has been extracted.

An analysis of the communalities ( $h^2$ ) was very revealing. It represented the amount of variance accounted for by a variable across all factors. Inspection of the  $h^2$  column of Table 1 suggests that scales *Hy* and *K* were the most prominent. Ninety-nine percent of the variance of these scales was accounted for across the seven factors. This would indicate that repression and denial were quite remarkable in this sample of alcoholics. On the other hand, scales *Mf* and *L* had very low  $h^2$ s. Thus, sexual role stereotyped attitudes and behaviors and naive deception were not at all prominent in this sample. The remaining nine scales were all well represented. Eleven of the 13 MMPI scales made large contributions to the factors, an indication they were influential in describing alcoholic personalities.

### Discussion

The findings of this study suggest that persons presenting problems with alco-



holism do not form a homogeneous population. The typological analysis disclosed seven distinct personality subtypes based on MMPI profile configurations. These results tend to support Gilberstadt and Duker (1965) who noted that fundamental personality differences are to be found among alcoholics.

Hierarchical factor analysis further reinforced the personality diversity of this alcoholic sample. At least seven components appeared to underlie alcoholism. However, since repression and denial were very prominent across nearly all factors, it is quite understandable why some might conclude that alcoholism is a unitary disorder. The highest order factor, 1001, showed high loadings on all of 13 scales and accounted for 23% of the test variance indicating that many alcoholics have some common symptoms and traits. Taking the results as a whole it was apparent that extensive psychopathology is common to alcoholism in general. It was also evident that specific combinations of symptoms and traits render an alcoholic sample quite heterogeneous.

At least three conclusions can be tentatively presented. First, repression and denial appeared highly characteristic of alcoholism. Second, diverse types of psychopathology seem associated with alcoholism. Third, both statistical and actuarial research has been converging, in so far as identifying personality subtypes in alcoholism. The assumption that alcoholics present unitary personality structures appears questionable and may explain, partially, the lack of success in treating alcoholics. This research strongly reinforces the experimental notion of differential treatment for these various subgroups, as suggested earlier by Kiesler (1966).

In examining these results, however, it would be advisable to view them as experimental and therefore, tentative. Three MMPI typological studies yielding similar alcoholic personality subtypes does not necessarily imply they exist in fact, nor that they are actually useful (i.e., in treatment). Extensive research must be conducted to answer these questions before they can be accepted. For example, the types must be described by clinical data to determine if they truly represent dis-

tinct subgroups. Second, the types need to be used experimentally in treatment research to discern if they are of value in that capacity. Also, the methodology employed suggests caution in interpreting these types. Despite the usefulness of numerical taxonomy, it is presently in an early stage of development. Thus, scientific skepticism should be the rule.

#### Reference Notes

1. Eshbaugh, D. M., Tosi, D. J., & Wherry, R. J. *The methodological evaluation of seven PRF alcoholic personality subtypes*. Unpublished manuscript, 1976. (Available from D. J. Tosi, Ohio State University, 353 Arps Hall, Columbus, Ohio 43210).
2. Wherry, R. J. *The Wherry multivariate analyses program package* (Systems Staff: Report No. 73). Columbus: Ohio State University, Behavioral Science Laboratory, 1975.
3. Wrigley, C. An empirical comparison of various methods for the estimation of communalities (Contract Report, No. 1). Berkeley: University of California, 1956.

#### References

- Arieti, S. *American handbook of psychiatry* (Vol. 1). New York: Basic Books, 1959.
- Bourne, P. G., & Fox, R. *Alcoholism: Progress in research and treatment*. New York: Academic Press, 1973.
- Brown, M. A. Alcoholic profiles on the Minnesota Multiphasic. *Journal of Clinical Psychology*, 1950, 6, 266-269.
- Carroll, R. M., & Field, J. A comparison of the classification accuracy of profile similarity measures. *Multivariate Behavioral Research*, 1974, 9, 373-380.
- Cormack, R. M. A revision of classification. *Journal of the Royal Statistical Society*, 1971, 134, 321-367.
- Cronback, L. J., & Gleser, G. C. Assessing similarity between profiles. *Psychological Bulletin*, 1953, 50, 456-473.
- Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. *An MMPI Handbook*. Minneapolis: University of Minnesota Press, 1967.
- Everitt, B. S. Cluster analysis: A brief discussion of some of the problems. *British Journal of Psychiatry*, 1972, 120, 143-145.
- Everitt, B. S., Gourlay, A. J., & Kendell, R. E. An attempt at validation of traditional psychiatric syndromes by cluster analysis. *British Journal of Psychiatry*, 1971, 119, 399-412.
- Fisher, L., & VanNess, J. W. Admissible clustering procedures. *Biometrika*, 1971, 58, 91-104.
- Gilberstadt, H., & Duker, J. *A handbook for clinical and actuarial MMPI interpretation*. Philadelphia: W. B. Saunders, 1965.

- Goldstein, S. G., & Linden, J. D. Multivariate classification of alcoholics by means of the MMPI. *Journal of Abnormal Psychology*, 1969, 74, 661-669. (a)
- Goldstein, S. G., & Linden, J. D. A comparison of multivariate grouping techniques commonly used with profile data. *Multivariate Behavioral Research*, 1969, 4, 103-114. (b)
- Harman, H. H. *Modern factor analysis* (2nd ed.). Chicago: The University of Chicago Press, 1967.
- Helmstadter, G. C. An empirical comparison of methods for estimating profile similarity. *Educational and Psychological Measurement*, 1957, 17, 71-82.
- Hubert, L. Some extensions of Johnson's hierarchical clustering algorithms. *Psychometrika*, 1972, 37, 261-274.
- Hubert, L. Min and max hierarchical clustering using asymmetric similarity measures. *Psychometrika*, 1973, 38, 63-72.
- Hubert, L. Approximate evaluation techniques for the single link and complete link hierarchical clustering procedures. *American Statistical Association Journal*, 1974, 69, 698-704.
- Hubert, L., & Schultz, J. Hierarchical clustering and the concept of space distortion. *British Journal of Mathematical and Statistical Psychology*, 1975, 28, 121-133.
- Johnson, S. C. Hierarchical clustering schemes. *Psychometrika*, 1967, 32, 241-252.
- Kaiser, H. F. The varimax criterion for analytic rotation in factor analysis. *Psychometrika*, 1958, 23, 187-200.
- Kiesler, D. J. Basic methodologic issues implicit in psychotherapy process research. *American Journal of Psychotherapy*, 1966, 20, 135-155.
- Lachar, D. *The MMPI: Clinical assessment and automated interpretation*. Los Angeles: Western Psychological Services, 1974.
- Lawlis, G. F., & Rubin, S. E. 16 PF Study of personality patterns in alcoholics. *Quarterly Journal of Studies in Alcoholism*, 1971, 32, 318-327.
- Lorr, M., Klett, C. J., & McNair, D. M. *Syndromes of psychosis*. New York: Pergamon Press, 1963.
- Lorr, M., & Radhakrishnan, B. K. A comparison of two methods of cluster analyses. *Educational and Psychological Measurement*, 1967, 27, 47-53.
- Marks, P. A., Seeman, W., & Haller, D. L. *The actuarial use of the MMPI with adolescents and adults*. Baltimore: The Williams Wilkins Co., 1974.
- Nerviano, V. J. Common personality patterns among alcoholics: A multivariate study. *Journal of Consulting and Clinical Psychology*, 1976, 44, 104-110.
- Nerviano, V. J., & Gross, W. F. A multivariate delineation of two alcoholic profile types on the PF. *Journal of Clinical Psychology*, 1973, 29, 371-374.
- Nunnally, J. C. The analysis of profile data. *Psychological Bulletin*, 1962, 59, 311-319.
- Partington, J. T., & Johnson, F. G. Personality types among alcoholics. *Quarterly Journal of Studies on Alcoholism*, 1969, 30, 21-34.
- Rummel, R. J. *Applied factor analysis*. Evanston: Northwestern University Press, 1970.
- Skinner, H. A., Jackson, D. N., & Hoffman, H. Alcoholic personality types: Identification and correlates. *Journal of Abnormal Psychology*, 1974, 83, 658-666.
- Sneath, P. H. A., & Sokal, R. R. *Numerical Taxonomy. The principles and practices of numerical classification*. San Francisco: Freeman Press, 1973.
- Sutherland, E. H., Schroeder, H. G., & Tordella, C. L. Personality traits and the alcoholic: A critique of existing studies. *Quarterly Journal of Studies on Alcoholism*, 1950, 11, 547-561.
- Syme, L. Personality characteristics and the alcoholic. A critique of current studies. *Quarterly Journal of Studies on Alcoholism*, 1957, 18, 288-302.
- Tatsuoka, M. M. *Multivariate analysis: Techniques for educational and psychological research*. New York: John Wiley and Sons, 1971.
- Whitelock, P. R., Overall, J. E., & Patrick, J. H. Personality patterns and alcohol abuse in a state hospital population. *Journal of Abnormal Psychology*, 1971, 78, 9-16.

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## A Note on the Actuarial Interpretation of WAIS Profile Patterns

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**Summary:** The present study offers additional information on the actuarial interpretation of WAIS profile patterns. Specifically, a sample of 242 WAIS protocols was investigated for cases which met all the previously established classification criteria for a profile pattern called Cluster IV. Two cases were identified, and their unique relationships to previously delineated personality and behavioral descriptors were described. The results suggest that the Cluster IV profile pattern is stable and can be reliably associated with certain personality descriptors, and further, that age acts as a moderator variable which alters the interpretation of this pattern.

In a previous paper (Amolsch & Henrichs, 1975) rationale, methodology, and results were presented from a study of the behavioral correlates of WAIS profile patterns of male psychiatric patients.

In that study a sample of 500 WAIS protocols of males between the ages of 16 and 54 was obtained. The Full Scale IQ range in this sample was from 77 to 135. The entire sample was then alternately divided into a derivation (D) and a cross validation (C) group, and each set of subtest scores in each group was converted to deviation scores dispersed around a mean of 10. This conversion permitted comparisons between protocols with respect to the same average, and defined patterns according to shape and scatter.

Using the  $D^2$  statistic to assess profile similarity (Cronbach & Gleser, 1953), an analysis of Group D produced 11 separate clusters composed of highly similar WAIS profile patterns. These 11 clusters accounted for 30% of all protocols in Group D.

Group C was then analyzed to identify protocols which fit the patterns derived from Group D. Eleven protocols, which comprised 4% of Group C, were eventually identified. These 11 protocols were unevenly distributed with respect to the 11 original clusters in Group D.

Specific attention was, therefore, given to one cluster (IV) which had the largest number of cases in both the derivation ( $n = 10$ ) and cross-validation ( $n = 5$ ) samples. In this cluster the Verbal IQ minus Performance IQ scores ranged from +6 to +21 points, fairly large in favor of the

Verbal subtests. Subtests classified as high were Comprehension and Vocabulary, while Digit Symbol, Block Design and Object Assembly were low, with Picture Completion remaining average in a low Performance subtest grouping.

The following data was obtained for Groups D and C of Cluster IV: (a) The modal diagnosis, (b) the significant items for each case in each group from a checklist of complaints, traits and symptoms (Gilberstadt & Duker, 1965). These items were obtained by an independent rating of the medical record by three mental health professionals. To be significant, an item had to be checked by two-thirds of the judges and had to have a rate of occurrence significantly different from a random sample of psychiatric patients, and, (c) the cardinal features of the patients in each group which put into capsule form the most salient facts and data that most quickly communicated the essence of the patients' personality and adjustment problems. This last category involved clinical judgment and, thus, was not strictly actuarial.

When Groups D and C were assessed for comparability on the variables of Full Scale IQ, Verbal IQ, Performance IQ, marital status, educational level, occupational level and age, only the latter variable revealed a significant difference. The mean age difference between the two groups was 22 years; this was judged to be both statistically and pragmatically significant.

When the descriptors were subsequently analyzed, the two groups seemed



Table 1  
Checklist Descriptors for Cluster IV by Individual Case

Case #287	Case #358
<sup>a</sup> age 44 dyspnea, respiratory complaint headache ulcer <sup>a</sup> depression crying, tearfulness tremor, trembling insomnia suicidal preoccupations <sup>a</sup> heavy drinking <sup>a</sup> combative when drunk multiple arrests bad checks <sup>a</sup> poor work adjustment <sup>a</sup> divorced or separated	<sup>a</sup> age 23 father alcoholic father strict <sup>a</sup> depression insomnia agitated suicidal preoccupations suicide attempt auditory hallucinations ideas of reference paranoid delusions drug abuse <sup>a</sup> schizoid <sup>a</sup> quiet <sup>a</sup> withdrawn, introverted <sup>a</sup> conflict with girlfriend homosexual trends

<sup>a</sup> Items which directly relate to cardinal features of original D and C groups of Cluster IV.

rather dissimilar in terms of psychiatric diagnosis and checklist items. This was reflected in the cardinal features of each group.

Those features which best described Group D were:

Older married men, mean age 42. Dependent, feelings of insecurity and inadequacy. Heavy drinking, or drug use in 60% of cases; aggressive and assaultive when drunk. Repressed hostility, resentful, passive-aggressive most of the time, defensive, resistive, contentious. Marital disharmony, frequent divorce and remarry pattern. Sexual difficulties. Low level jobs, below capabilities. Poor work adjustment. Parents strict, critical and demanding of patient to achieve.

The cardinal features of Group C were:

Young, single men, mean age 19. Low self-esteem, feel insecure and inadequate especially around females. Loners, seclusive as children often teased and nicknamed

by sibling or classmates. Usually lived in small town or farm without much social contact when growing up. Inability to form close relationships except with mother. Views mother as domineering, the family disciplinarian. Views father as "friendly" or "nice guy," but weak and passive figure. Father's influence limited due to sickness, death (2 cases) or by his leaving the scene as when arguing with wife. Home situation was strict, rigid, religious, or moralistic. Naive or disturbed in sexual areas. Shy, dependent and prone to daydreaming.

In view of the above, it seemed most reasonable to view age as a moderator variable which alters the interpretation of a given pattern of scores.

This meant that the determination of appropriate cross-validation of Cluster IV received a Scotch verdict, i.e., not proven. It also meant that additional data were needed. Toward that goal, and as part of a larger investigation, a new



sample of 242 WAIS protocols was obtained which met all the criteria of the original investigation. From this sample two cases emerged, identified only by code number, which met all the original subtest classification criteria for Cluster IV.

These cases were rated independently by three judges, and only those descriptors checked by two or more of the judges were retained. Table I shows the descriptors for the cases.

One can be both dismayed by the limited number of cases which emerged from additional data acquisition, and intrigued by how well these cases relate to the cases in the original groups. The degree of consistency between these cases and their respective groups from the original study is quite impressive. This consistency suggests that at least two conclusions are warranted:

1. The WAIS profile pattern which we call Cluster IV is stable and can be reliably associated with certain personality and behavioral descriptors, and

2. Age is a significant moderator variable which alters the interpretation of this pattern.

On the same WAIS profile pattern, different age dependent output descriptors were found in the original study. The replication of these unique findings, even with only two cases, seems unlikely to be a chance occurrence.

#### References

- Amolsch, T., & Henrichs, T. Behavioral correlates of WAIS profile patterns: An exploratory study. *Journal of Personality Assessment*, 1975, 39, 55-63.
- Cronbach, L. J., & Gleser, G. C. Assessing similarity between profiles. *Psychological Bulletin*, 1953, 50, 456-473.
- Gilberstadt, H., & Duker, J. *A handbook for clinical and actuarial MMPI interpretation*. Philadelphia: W. B. Saunders, 1965.
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## The Role of Affective Assessment in Intelligence Testing

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**Summary:** Based on the tenets of logical learning theory and the research in its support, it was predicted that subjects (87 seventh and eighth graders) would score higher on subtests of the Wechsler Intelligence Scale for Children which they had assessed positively than on those which they had negatively assessed. This superiority on liked over disliked subtests was also predicted to be greater for Black than for White subjects and for lower class, compared with middle class, subjects. Subjects performed significantly better on their liked than on their disliked subtests,  $p < .01$ , supporting the telic human image advanced by logical learning theory. No racial or social class differences in this effect were seen.

Principles which stress the quantitative properties of environmental inputs, such as practice and familiarity, have long dominated theories of human learning. Active contributions of the subject to his or her learning and intellectual performances have, by contrast, been neglected. The present study drew its rationale from logical learning theory (Rychlak, 1977), which views human behavior, not in terms of stimulus-response or stimulus-mediator-response sequences, but rather as telic. The line of research which follows from this theoretical stance explores the individual's contribution to what is or is not reinforcing of his or her behavioral patterns.

The major telic construct of logical learning theory tested to date is that of affective assessment. Affective assessments are defined as the psychological judgments or evaluations an individual makes of his or her experience in terms of good-bad, positive-negative, or like-dislike (Rychlak, 1977, p. 489). The capacity to affectively assess is not learned or programmed by environmental inputs, but is considered inherent.

The experimental procedure used to operationalize the affective assessment

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construct involves having each subject rate materials such as trigrams, words, designs, or faces as liked (positive reinforcement value) or disliked (negative reinforcement value). The relationship between these idiographic preratings and the individual's subsequent performance on liked compared with disliked materials is then investigated. Since it is each individual's evaluation of the materials that is of interest, rather than the materials themselves, different materials (verbal, pictorial, etc.) may enter into each subject's liked and disliked classifications. Materials are compared based on subjects' idiographic ratings of them.

Knowing a subject's reinforcement value for the meanings involved in an upcoming task allows prediction of the course of his or her behavior. Subjects who positively evaluate paired-associates or free recall learning tasks perform significantly better on liked than on disliked verbal items (Abramson, Tasto, & Rychlak, 1969; Rychlak, 1966; Rychlak, Galster, & McFarland, 1972). This "positive reinforcement value effect" is diminished or even reversed when subjects hold low opinions of themselves (low ego-strength, poor self-image) (August, Rychlak, & Felker, 1975; Rychlak, McKee, Schneider, & Abramson, 1971). Positive and negative reinforcement value effects occur independently of variables based on frequency counts such as association value (Abramson, et al., 1969; Flynn, 1967, 1969; Rychlak, McKee, Schneider, & Abramson, 1971; Rychlak & Tobin, 1971; Tenbrunsel, Nishball, & Rychlak, 1968).

Logical learning theory holds that it is possible for subjects to "learn error" as well as to learn the criterion requirement in any task (Rychlak, 1977, p. 327). A student, struggling in an academic subject he or she dislikes has, to some extent, learned how *not* to learn by extending personally disliked (erroneous, confused, "incorrect") premises concerning the subject for years. Similar expectations are held for a subject facing an intelligence test.

It follows from logical learning theory and its research support that subjects should conceptualize the task requirements more accurately and hence make fewer errors and extend the "right" meanings more readily when they assign positive reinforcement value to a task than when they assign it a negative value. Moreover, laboratory studies suggest that Blacks more readily than Whites, and lower class students more readily than middle class students, rely on the reinforcement value dimension in their verbal learning styles (O'Leary, 1971; Rychlak, 1975; Rychlak, Hewitt, & Hewitt, 1973).

Three hypotheses were tested in the present research:

1. Subjects will score higher on intelligence tasks reliably preterated as positive in reinforcement value than they will on tasks reliably preterated as negative in reinforcement value.

2. This positive reinforcement value effect will be significantly greater for lower class than for middle class subjects.

3. This effect will similarly be significantly greater for Blacks compared with White subjects.

### *Method*

#### *Subjects*

Subjects were seventh and eighth grade students, ages 12 to 15, attending lower class and middle class junior high schools. The lower class school was located in Indianapolis' inner city; and the middle class school, in the suburban area. Efforts were expended to establish a true social class difference, based on the occupational and educational levels of a child's parents or guardians. However, while these variables were highly comparable across

racial lines at the lower class level, efforts to equate racial groups at the middle class level were not entirely successful. There was a resultant bias toward higher status in the White group at the middle class level. Classrooms totaling approximately 270 children were pretested (see procedure below). From this pool, 96 subjects were selected to fill experimental cells defined factorially by two levels each of social class, race, and sex.

#### *Procedure*

Permission was obtained from The Psychological Corporation to make a black and white 16mm. film of the procedure employed in the administration of the Wechsler Intelligence Scale for Children (WISC).<sup>1</sup> Demonstration items which employed the basic format and instructions of the WISC subtests but which used different item contents were used to represent each subtest. The film showed a table top on which each of two experimenters (a black and a white female) manually demonstrated three verbal and three performance subtests, while the other's voice presented items and instructions. Verbal and performance subtests were interspersed. Presentations of verbal items were accompanied by expressive hand and arm movements (e.g., opening up, clasping, pointing), while demonstration materials were manipulated on performance items. The examiner's face was not in view, as the camera panned down on the felt-covered tabletop and the examiner's hands and arms.

Each subtest demonstration ended with the examiner asking how much the viewer would like or not like doing a task of the type presented. Subjects indicated their judgments by circling one of four alternatives (either "like a lot," "like a little," "dislike a little," or "dislike a lot") printed on an answer form.

Classrooms of subjects (270 in all) rated the demonstration subtests on two occasions, with one week intervening. Subtests rated reliably as liked or disliked were then categorized for each subject.

<sup>1</sup> The authors thank The Psychological Corporation, manufacturer of the WISC, for permission to create this film and Kay Woodward for her participation in the film.

Table 1  
Mean Scaled Scores and Standard Deviations of Cells

Group	<i>n</i>	Liked Subtests		Disliked Subtests	
		Mean	<i>S. D.</i>	Mean	<i>S. D.</i>
Middle Class					
Black Males	12	9.45	1.99	8.90	2.79
Black Females	11	8.56	2.53	7.94	1.62
White Males	12	11.88	1.95	11.02	1.91
White Females	12	10.85	1.62	10.72	1.98
Lower Class					
Black Males	9	9.39	1.61	8.37	1.72
Black Females	10	7.89	2.51	7.06	1.41
White Males	10	9.79	1.71	8.61	2.05
White Females	11	8.49	1.58	8.08	2.24

Distinctions between "a lot" and "a little" were ignored because subjects did not discriminate this finely. Ninety-six subjects were then selected to fill eight experimental cells, defined factorially by two levels each of social class, race, and sex. These subjects, selected for individual testing, had to have rated seven or more subtests reliably, with a minimum of two being rated as liked and two as disliked.

The 12 WISC subtests were then individually administered by four examiners who were unaware of subjects' ratings. An equal number of subjects within each cell was assigned to each of these examiners — a White and a Black male and a White and a Black female. Counterbalancing for order of subtest administration (either like-dislike-ambivalent, or unreliable, or dislike-like-ambivalent) was also carried out. Beyond this, Wechsler's (1949) standard procedures were followed. Nine of the selected subjects were lost due to repeated absences and failure to obtain parental consent for individual testing (see Table 1 for distribution).

### Results

Mean scaled scores for liked and disliked subtests calculated for each subject constituted the data of primary interest. However, IQs prorated on the basis of each subject's liked and disliked subtests were calculated as well in order to concretize the meaning of the reinforcement value factor in terms of more familiar score values. Scores were analyzed with 2<sup>4</sup> factorial analyses of variance, which took social class, race, and sex as between-subjects factors, and reinforcement value, as a within-subjects factor. Unequal *ns* were treated by an unweighted means solution (Winer, 1968, pp. 241-242).

The first hypothesis, that subjects would score higher on liked than on disliked tasks, was supported by a significant main effect for reinforcement value: Scaled scores:  $F(1, 79) = 9.42, p < .01$ , liked subtests  $M = 9.60$ , disliked subtests  $M = 8.92$ ; IQ scores:  $F(1, 79) = 9.52, p < .01$ , positive reinforcement  $M = 96.26$  ( $S.D. = 14.04$ ), negative reinforcement  $M = 91.54$  ( $S.D. = 14.25$ ).



The predictions of a greater reinforcement value effect in lower class, as compared with middle class, and in Black, compared with White, subjects were tested by the interactions between reinforcement value and social class and reinforcement value and race, respectively. Neither interaction attained significance. Table 1 contains mean scaled scores and standard deviations for each group's liked and disliked subtests.

The main effects of social class,  $F(1, 79) = 15.91, p < .01$ , race,  $F(1, 79) = 16.59, p < .01$ , and sex,  $F(1, 79) = 9.42, p < .01$ , attained significance. These effects were incidental to the hypotheses, but help describe the populations studied. Middle class subjects,  $M = 9.95$ , earned higher scaled scores than did lower class subjects,  $M = 8.45$ ; Whites,  $M = 10.00$ , scored higher than did Blacks,  $M = 8.46$ ; and males,  $M = 9.75$ , scored higher than females,  $M = 8.78$ . Social class also interacted significantly with race,  $F(1, 79) = 36.60, p < .05$ . The racial disparity was greater at the middle class level, Whites  $M = 11.12$ , Blacks  $M = 8.63$ , than at the lower class level, Whites  $M = 8.72$ , Blacks  $M = 8.14$ .

### Discussion

Affective assessment, as operationalized by reinforcement value, played a role in intelligence testing consistent with its role in learning situations. Subjects' affective assessments predicted the relative quality of their performances on the WISC subtests. Having relevant skills or expecting to do well might itself be conceptualized as a positive feature of an upcoming task. In addition, positive affects about a task may result in the subject's more readily grasping the nature of the task, seeing meaningful relationships, and finding effective solutions. Negative affects projected onto an upcoming task might result in such aspects of failure as misunderstanding or forgetting an instruction, losing one's concentration, or failing to recall needed information. An implication of this finding might be that education should cultivate positive interest value for academic tasks and learning, as opposed to merely supplying information.

The S-R theorist, or traditional learning theorist, might interpret differences between reinforcement value levels as a byproduct of motivational factors, claiming that the children merely "tried harder" on subtests which they liked. Yet, children generally insist they find disliked tasks more exhausting than liked tasks. They find it difficult or impossible to distinguish between liked activities and easy activities. When asked to specify the reasons that a task is easy for them, they usually revert to some affective statement, signifying that they "just like it." The predictive power of the reinforcement value construct may be seen as stemming from an active intellect that projects its meanings onto upcoming experiences.

Unlike the findings in paired-associates studies, the two racial groups did not differ in their degree of reliance on their affective assessments. Middle and lower class groups also failed to differ in this respect. There are, of course, noteworthy differences in the extent of control achieved in the intelligence tasks compared with the laboratory learning tasks. Whereas every item in the learning tasks was affectively assessed, only a global assessment of each task was known in this study. The subject's affection about the testing situation per se might constitute another relevant source of variance. Marceil (1975) found that subjects who dislike the testing situation tend to reduce or reverse the positive reinforcement value effect. Thus, certain subgroups may have been biased against the testing, and this may have masked any effects of social class and race. Future work should consider this factor.

### References

- Abramson, Y., Tasto, D. L., & Rychlak, J. F. Nomothetic vs. idiographic influences of association value and reinforcement value on learning. *Journal of Experimental Research in Personality*, 1969, 4, 65-71.
- August, G. J., Rychlak, J. F., & Felker, D. W. Affective assessment, self-concept, and the verbal learning styles of fifth-grade children. *Journal of Educational Psychology*, 1975, 67, 801-806.
- Flynn, E. J. *The factor analysis of meaning in CVC trigrams rated for association value and reinforcement value*. Unpublished master's thesis, St. Louis University, 1967.
- Flynn, E. J. *Beyond frequency: A two-dimensional theory of verbal meaningfulness*. Unpublished doctoral dissertation, St. Louis University, 1969.

- Marceil, J. C. *The role of the person in the psychology experiment: A reappraisal of the problems of reinforcement, response set and volunteer error*. Unpublished master's thesis, Purdue University, 1975.
- O'Leary, L. F. A comparative study of the perceived relevance of material to be learned and its impact on the performance of culturally deprived junior college students. *Journal of Education Psychology*, 1971, 62, 405-409.
- Rychlak, J. F. Reinforcement value: A suggested idiographic intensity dimension of meaningfulness for the personality theorist. *Journal of Personality*, 1966, 34, 311-355.
- Rychlak, J. F. Affective assessment, intelligence, social class, and racial learning style. *Journal of Personality and Social Psychology*, 1975, 32, 989-994.
- Rychlak, J. F. *The psychology of rigorous humanism*. New York: Wiley-Interscience, 1977.
- Rychlak, J. F., Galster, J., & McFarland, K. K. The role of affective assessment in associative learning: From designs and CVC trigrams to faces and names. *Journal of Experimental Research in Personality*, 1972, 6, 186-194.
- Rychlak, J. F., Hewitt, C. W., & Hewitt, J. Affective evaluation, word quality, and the verbal learning styles of Black versus White junior college females. *Journal of Personality and Social Psychology*, 1973, 27, 248-255.
- Rychlak, J. F., McKee, D. B., Schneider, W. E., & Abramson, Y. Affective evaluation in the verbal learning styles of normals and abnormals. *Journal of Abnormal Psychology*, 1971, 77, 11-16.
- Rychlak, J. F., & Tobin, T. J. Order effects in the affective learning styles of overachievers and underachievers. *Journal of Educational Psychology*, 1971, 62, 141-147.
- Tenbrunsel, T. W., Nishball, E. R., & Rychlak, J. F. The idiographic relationship between association value and reinforcement value, and the nature of meaning. *Journal of Personality*, 1968, 36, 126-137.
- Wechsler, D. *Manual for the Wechsler Intelligence Scale for Children*. New York: The Psychological Corporation, 1949.
- Winer, B. J. *Statistical principles in experimental design*. New York: McGraw-Hill, 1962.

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## Similar Rorschach Patterning in Three Cases of Anorexia Nervosa

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**Summary:** The Rorschachs of three cases of ambulatory anorexia nervosa patients showed striking quantitative and qualitative similarities. Analysis of the patterning prompted a diagnosis of conversion hysteria with repressed orality as the suspected dynamism. It was suggested that the Rorschach might prove useful for diagnosing this hysteroid subgroup of patients for the purpose of differential treatment.

Anorexia nervosa has been recognized as a clinical entity for over a century, yet its psychiatric status is in doubt and the syndrome has been variously diagnosed as conversion hysteria, obsessive-compulsive neurosis, anxiety reaction, and sundry forms of schizophrenia. Controversy also surrounds the supposed psychodynamics of the condition and the old psychoanalytic formulation stressing conflicts over oral impregnation has been challenged by a number of newer conceptualizations such as that of Bruch who views anorexia nervosa as "a desperate struggle for a self-respecting identity" (1973, p. 250). The present paper attempts to shed additional light on this intriguing malady by analyzing and comparing the Rorschachs of three authenticated cases.

In the past, most of the literature dealing with Rorschach patterning in anorexia nervosa has been couched in descriptive statements, eliding the presentation of the protocols themselves. Furthermore, the findings have been disappointing, allowing few diagnostic generalizations. Palazzoli, after administering the Rorschach to approximately 40 patients, concluded that "a Rorschach pattern typical of anorexia nervosa was not found" (1970, p. 206). Roland, commenting on the results of projective testing including the Rorschach on 23 cases, mentions a farrago of traits including "strong depressive trends... suicidal ideation... sexual conflicts... body-image distortion... psychotic trends... poor ego-control... inadequacy and rejection... poor reality-testing... regression... strong feelings of isolation" (1970, p. 108).

The cases presented in this paper were

ambulatory when tested and, therefore, may constitute a more intact subgroup of anorexia nervosa patients. In addition, they all met the following requirements: (a) an aversion to ingesting food accompanied by a severe weight loss; (b) no evidence of a physiological disturbance which could have caused the condition, verified by hospitalization and medical examination; and (c) a subsequent psychiatric diagnosis, confirming the diagnosis of anorexia nervosa.

### *Case History Summaries*

1. AB is a 21-year-old, single female and a student at a well known women's college. When she was a freshman in college, she went through a period of compulsive stealing which was then followed by the development of anorexia nervosa and its usual concomitant, a cessation of menses. She was emaciated when tested, a condition she rationalized away by claiming she didn't want to get fat, a popular excuse in such cases. AB was polite, cooperative and anxious to please during testing.

2. CD is another 21-year-old, single female. She has a high school education and was trained as a manicurist, but her work record was unsubstantial. She showed a history of emotional problems, having run away from home as a teenager. She was diagnosed as a conversion hysteric suffering from anorexia nervosa at a mental hospital, but when tested, had been released to a halfway house. Reportedly, she reacted to aggression by vomiting. At the height of her problem, she had dropped to 57 pounds. She cried easily and complained of an inferiority complex. During testing, she was talkative, inquisi-



tive and restless. She seemed intolerant of silence and was quick to fill in conversational gaps.

3. The third case, EF, is a 26-year-old married man with a high school education, employed as a clerk. About a year prior to testing, he felt "under stress" and experienced stomach problems which eventually led to an inability to eat, and to vomiting. He had to be hospitalized in order to produce a weight gain, but, when tested, still only weighed 113 pounds (he is about 5'10" tall). Extensive medical examinations revealed no physical cause for EF's malady, leading to a psychiatric diagnosis of anorexia nervosa. EF was cooperative but not particularly affable during testing, conversing with his hands tucked into his trousers, working swiftly, and relating to the examiner in a rather impersonal and superficial manner. Since anorexia nervosa is relatively rare in males, it was felt that any important similarities noted among the Rorschachs of these three cases might be especially meaningful.

### *Results and Discussion*

Despite the stylistic differences (e.g. CD was more verbose), these protocols have much in common quantitatively and qualitatively. Total number of responses was low (10-12) which is a possible effect of anxiety on Rorschach performance. Human movement percepts were few (1-2) and movement responses in general were on the low side. Low *M* is often indicative of conversion hysteria, especially when color responses are *CF* or *C*. In all cases "loose color" predominated over controlled color (*FC*). AB gave the only controlled color response of the three patients, which was interesting inasmuch as her observable behavior was more socialized and spontaneous than that of *CD* and *EF*. The *W:M* ratio was out of balance in all cases (8:1, 6:1, 12:2) which, according to Rorschach, is often found in abnormal adults. It is also associated with individuals striving beyond their inner resources.

Content and scoring were strikingly similar on Card VIII. AB and EF gave a color dominant "food" response to the total card. CD gave a color dominant "water" response, the content in all three

cases associated with attitudes of dependency and inertia. In two of the protocols, a human or animal was directly involved in eating ("couple of monkeys eating peanuts; two women having lunch together."). Card IX elicited the longest reaction time for both women and the second longest for EF. AB showed a rigidity and lack of animation regarding her femininity and/or female role. CD ridiculed male figures on Card III (her only *M*) and gave a female anatomy response to Card VI which usually provokes associations of male sexuality. EF evidenced attention getting needs, confusion of sexual role and definite disturbances and feelings of apprehension in his relationship with women. It can be concluded that all three subjects have problems in sexual adjustment to which they do not openly admit and of which they may not be consciously aware. This data could be offered in support of the psychoanalytic theory that loss of appetite may result from childhood misunderstanding of the process of conception with consequent fear of pregnancy due to oral intake. This would seem to have no bearing on EF but he does have a very weak masculine self-concept with strong dependency needs.

These three cases can be collectively described as labile, somewhat anxious, and orally fixated. They appear to be in contact with reality, but their defenses are rigid and strained. Psychodynamically, it could be conjectured that deep oral needs have been blocked and "converted." These cases definitely seem hysteroid rather than obsessive-compulsive or psychotic.

The protocols also come fairly close to fulfilling the diagnostic criteria for conversion hysteria suggested by Wagner (1973) which stipulates both low *R* and low movement responses plus two of the following: failures; loose color; low *F+* %; and content consisting of sex, anatomy, and blood. Inasmuch as the aforementioned criteria apply to clear-cut examples of conversion hysteria with classical symptomatology (patients who are "hysteroid" or "mixed" will deviate from this patterning in various ways), the case for a differential diagnosis of conversion



## Rorschach Protocols

## Rorschach: AB

I.	11" Sort of like a bat. ( <i>Q</i> ) Just wings. ( <i>Anything else?</i> ) Well, also like a bone structure around the pelvic area, I forget what it is. ( <i>Q</i> ) Just the shape.	W	F	A	P
II.	14" Two women having lunch together. Facing each other. Coats on, if that matters. ( <i>Q</i> ) Red hats, dark gray coats, have a rough, tweedy look.	W	F±	anat	
III.	31" Oh . . . couple people warming their hands over a fire. Small stove or something. ( <i>Q</i> ) Maybe they're skaters. ( <i>Q</i> ) Look like short skirts. Female. Don't know what the red things would be.	W	{ M F	H obj,	P fire
IV.	2" Bear rug. ( <i>Q</i> ) Sort of softish. About all.	W	F <sub>C</sub>	obj	P
V.	32" What happens if you get stuck? A butterfly with oversized wings. ( <i>Q</i> ) Not moving. Wings just out.	W	F	A	P
VI.	7" Some sort of Indian medicine sign on a teepee or a blanket. Just a design, whole thing.	W	F±	des	
VII.	3" Looks like a couple of sculptured figures in a museum on a pedestal, facing each other. ( <i>Q</i> ) Wings. Angels. ( <i>Q</i> ) Mainly shape.	W	F	(H),	art
VIII.	47" Never seen any, but might be petrified rock. ( <i>Q</i> ) Whole thing, especially goldish and pink down at the bottom. ( <i>Q</i> ) Colors and it has a hard, grainy look like minerals.	W	CcF	geol	
IX.	55" Vaguely resemble vegetables lined up next to each other like carrots, lettuce, beets. ( <i>Q</i> ) General impression. A museum fountain. Water in the middle. ( <i>Q</i> ) Base is the cup-like thing around the outside. ( <i>Q</i> ) Light blue water in the middle coming up. ( <i>Q</i> ) Color just for the water.	W	CF	food	
X.	36" ( <i>Smiles</i> ) Sort of an aquarium. Looking into it. Crab with pincher here. looks like its shell. Goldfish. ( <i>Q</i> ) Its color. Snails. Look sorta like snails out of their shells. Might be seaweed. ( <i>Q</i> ) Yes, color. Don't know what pink things are . . . rock things? Coral. ( <i>Q</i> ) Yes, color. ( <i>Q</i> ) General impression of an aquarium. Color helps. ( <i>Q</i> ) No, just there.	W	{ F± CmF	art water	
		W	{ CF F FC F CF CF	water N A A A pl geol	P

W = 12

M	= 2	A	= 5
mF	= ½	H	= 2
Fc	= 1½	(H)	= 1
cF	= ½	obj	= 2
F	= 6	geol	= 2
F±	= 3	anat	= 1
FC <sub>G</sub>	= ½	app	= 1
FC	= 1	fire	= 1
		des	= 1

R	= 12
P	= 5
airt	= 23.8
W:D	= 12:0
W:M	= 12:2
FM:M	= 0:2
ΣC:M	= 6¾:2
ΣC:Σ <sub>C</sub>	= 6¾:2¼
FC:CF:C	= 1½:6:0

## Rorschach: AB (cont'd)

CF = 6

art = 2

A% = 26

food = 1

F% = 47

water = 2

F+% = 67

N = 1

pl = 1

## Rorschach: CD

- |      |   |                             |
|------|---|-----------------------------|
| I.   | 42" ( <i>Purses lips, snickers, mumbles.</i> ) Humph. Looks like something, I don't know what. ( <i>pause</i> ) You want it this way? ( <i>Turns card of her own accord.</i> ) In the middle here it looks like maybe a mouse or something. I don't know what it is. ( <i>Q</i> ) I don't know what it is. Does it bother you if I chew gum? ( <i>No</i> ) ( <i>Q</i> ) Like in here, this face and ears . . . What's that mouse on T.V. in the cartoons? ( <i>Mickey Mouse?</i> ) No, that Italian mouse. You probably don't watch cartoon do you? My father did. ( <i>Q</i> ) Yes, just the shape. ( <i>Q</i> ) No, no, the whole mouse. The tail's right here ( <i>center D</i> ). | D   F   (A)                 |
| II.  | 2" Two elephants pushing their noses together, you know. They're both bleeding. ( <i>laughs</i> ) You know what I mean by elephants don't you? They're facing each other and their tails are together. What else, let's see . . . They could be pigs but I think they look more like two elephants. ( <i>Q</i> ) Well, its just that little ear sticking up there and the trunks mostly. ( <i>Q</i> ) Well, in the back they're bleeding, it's just what the red is, it really doesn't matter.  | D { FM   A   P<br>CmF blood |
| III. | 4" Well, this looks like two guys and their rear ends are sticking up in the back ( <i>laughs</i> ). It could be an exercise machine they're holding on to, just bending back ( <i>Q</i> ) They're people, I know that. Funny looking people.   | W { M   H   P<br>F   obj    |
| IV.  | 17" Oh, oh . . . maybe a little dog with his ears. I don't know . . . like with feet stickin' out. Doesn't really look like that though . . . a dog's ears, cute little terrier. ( <i>Q</i> ) Dogs don't get in a position like that. ( <i>Q</i> ) Mostly the head and ears, can't see the rest.  | W   F   Ad                  |
| V.   | 4" Ah, some kind of a butterfly, moth or something you know. Up here's the head, and a tail. This is the wings. ( <i>Q</i> ) Color doesn't have much to do with it, just the shape.   | W   F   A   P               |

## Rorschach: CD (cont'd)

VI. 75" Ahem . . . That looks like an inkblot ( <i>laughs</i> ). It looks like . . . let's see . . . If I look at it long enough, I might find something, but . . . Like the inside part of a body, I don't know. Part of a gland or something. ( <i>Q</i> ) Well, maybe like a woman's uterus or something ( <i>laughs</i> ). ( <i>Q</i> ) There's shades to it . . . it would make a nice abstract, but . . . I shouldn't look at them too long. You've got a lot of books don't you?	W	cF	anat, sex
VII. 5" ( <i>Laughs</i> ) That kinda looks like two little poodle dogs, maybe little chihuahuas or something with little black noses. It's cute. ( <i>Q</i> ) Just there. Yes, whole dog.	D	Fc'	A
VIII. 32" I like the colors in this one . . . pretty. There's some kind of animal. It could be a mouse or something with little legs. It's climbing. Climbing or something. Or could be walking. ( <i>Q</i> ) No, not in particular. Or if you hold it this way it could be a reflection in the lake. ( <i>Q</i> ) A lake reflecting things. ( <i>Q</i> ) Yes, color. ( <i>Q</i> ) The whole thing.	D	FM	A P
	W	CcF	water
IX. 84" This just looks like a pretty inkblot. I like the colors, but . . . ( <i>Close inspection. Removes glasses.</i> ) Maybe like at the top it looks like part of an apple core ( <i>laughs</i> ) with maybe the seeds or something ( <i>points to S</i> ). And this part down here doesn't look like anything with my glasses on. ( <i>Q</i> ) No, but I like the colors in it.	S	F	food
X. 35" Oh, it's a pretty one! ( <i>turns card</i> ) I don't know, looks like a weird abstract maybe. ( <i>Q</i> ) Well you can't see nothing, just a bunch of different shapes, colors, forms. A pretty painting. I like the colors. And I see two eyes there . . . see . . . in this part . . . and a nose too . . . that ( <i>green</i> ) could be a mustache, long mustache ( <i>outlines face</i> ).	W	C	art
	DS	F	Hd, eyes

W = 6  
D = 4  
DS = 1  
S = 1

M = 1  
mF = ½  
FM = 2  
cF = 1½  
F = 6  
Fc' = 1  
CF = 2  
C = 1

A = 4  
(A) = 1  
Ad = 1  
H = 1  
Hd = 1  
obj = 1  
blood = 1  
anat = 1  
sex = 1  
water = 1  
food = 1  
art = 1  
eyes = 1

R = 12  
P = 4  
airt = 30.0  
W:D = 6:4  
W:M = 6:1  
FM:M = 2:1  
ΣC:M = 3½:1  
ΣC:Σc = 3½:2¼  
FC:CF:C = 0:2:1  
A% = 43  
F% = 43  
F+% = 100

## Rorschach: EF

I.	1" Looks like a bat. ( <i>anything else?</i> ) No, just looks like a bat. ( <i>Q</i> ) Well, I'd be inclined to think an insect except for them big wings. And a bat has them little tiny claws up there, little hands. Looks a lot like a bat. ( <i>Q</i> ) Yeah, just shape.	W	F	A	P
II.	4" Looks like somebody stickin' out their tongue. Someone with a big bushy beard. ( <i>laughs</i> ) Looks like a split lip or something. ( <i>Q</i> ) I guess the bright red, that's the only thing I can think of. ( <i>Q</i> ) The tongue here and maybe bloodshot eyeballs ( <i>top red</i> ).	W	M+C	Hd	
III.	5" Looks like two . . . I don't know, couple monkeys. Eatin' peanuts out of a dish or something. ( <i>Q</i> ) I don't know, they look like they're in a position . . . monkeys are in more of a bent over position than people. It doesn't look like people sitting down, it doesn't look like people sitting up, it looks more like a couple of monkeys. ( <i>Q</i> ) Well, it looks like a bowl there. I don't know if monkeys eat peanuts out of a bowl or what ( <i>laughs</i> ).	D	{ FM F	A obj, food	
IV.	8" Looks like King Kong jumpin' off the New York skyscraper with big feet. ( <i>Q</i> ) Oh, I don't know. You ever seen King Kong jumpin' off? It just looks like a picture of somebody where the feet's real big and the body's . . . ? ( <i>Q</i> ) Kind of wooly you know. ( <i>Q</i> ) He's jumpin' off something but that'll do for a skyscraper I guess. It should have a little more straight lines in it.	W	{ (FM)c F	(A) arch	
V.	3" Hmmm . . . looks like a butterfly . . . or a moth. Hmmm . . . maybe a moth. ( <i>Q</i> ) Oh, it looks very much like a moth. The wings. . . could be . . . well, just looks like a moth, looks a whole lot like a moth. ( <i>Q</i> ) Doing nothing.	W	F	A	
VI.	4" Looks like a string bass with ah . . . a little distorted maybe but it looks like a bass fiddle. ( <i>Q</i> ) Just looks like a bass fiddle. Has a neck up here and it has a division in here, like it might have some strings running down there. And the wider base of it . . . maybe a custom fiddle or something.	W	F	instru	
VII.	17" Hmph! . . . How about smoke clouds or something? A guy fanning with a blanket, sending up smoke signals or something. ( <i>Q</i> ) Well, there's no guy there but I can't figure anything else except it could look like clouds of smoke going up. I guess all of these have a radial . . . whata you call it, bilateral symmetry . . . cause you fold over the sheet, right? ( <i>Q</i> ) Yeah, smokey.	W	cmF	smoke	



## Rorschach: EF (cont'd)

- VIII. 6" hmmm . . . Sure looks like a chopped up bowl of ice cream. Neapolitan or whatever you call it. Six different flavors. I don't know if I've ever seen anything else with all those colors together like that. (Q) No, just the ice cream.
- IX. 15" Top part looks like fire. Orange flames, something burning. How about a green log? (laughs) Maybe a tree . . . a forest fire . . . There you go, top of a tree, that's green. (Q) It looks like fire and flames a little bit—a whole lot. (Q) Well, I don't know what to think of this bottom part. I don't know what would be under a tree (laughs).
- X. 10" Ah, a mess . . . looks like a mess . . . looks like something my father-in-law would do with his painting bit . . . modern art. (Q) Well, the only possible explanation for that is somebody just took a bunch of paint and throwed it. It just doesn't have any kind of order to it at all. (Q) Yeah, color, it just looks like a hodge-podge of everything else.

W = 8	M± = 1	A = 3	R = 10
D = 2	mF = 1	(A) = 1	P = 1
	FM = 1	Hd = 1	airt = 7.3
	(FM) = 1	obj = 1	W:D = 8:2
	Fc = ½	fire = 1	W:M = 8:1
	cF = 1	smoke = 1	FM:M = 2:1
	F = 5	arch = 1	ΣC:M = 5:1
	CF = 3½	food = 2	ΣC:ΣC = 5:2
	C = 1	instru = 1	FC:CF:C = 0:3½:1
		tree = 1	A% = 31
		stain = 1	F% = 38
			F+% = 100

hysteria is reasonably compelling and in accord with an established historical position regarding the condition.

Since there is ample evidence in the literature to attest to an assortment of psychological traits among anorexia nervosa patients, it is probably best to regard these findings as indicative of a definite *sub-group* which is basically hysterical. In this respect, the Rorschach should prove useful in identifying this type of patient so that appropriate treatment procedures could be instituted.

## References

Bruch, H. *Eating disorders*. New York: Basic Books, 1973.

Palazzoli, M. S. Anorexia nervosa. In Sylvano Arieti (Ed.), *The World*, biennial of psychiatry and psychotherapy, Vol. 1. New York: Basic Books, 1970.

Roland, C. V., Jr. Anorexia nervosa: A survey of the literature and review of 30 cases. In Christopher V. Roland, Jr., (Ed.) *Anorexia and obesity*. Boston: Little Brown, 1970.

Wagner, E. E. Diagnosis of conversion hysteria: An interpretation based on Structural Analyses. *Journal of Personality Assessment*, 1973, 5-15.

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## **Society to Meet in Phoenix Area**

The winter meetings of the Society alternating between Tampa and San Diego have been very successful indeed over the past few years. We have seen a steady increase in the number of papers and workshops proposed as well as in attendance. It is a heartening sign of the continuing vitality of the organization as well as of the burgeoning interest in personality assessment.

At the March meeting in Tampa the Board of Trustees decided to venture away from the coasts and to hold the 1979 meeting in the Phoenix area. Arrangements have been made. We will meet at:

**Sunburst Hotel  
Scottsdale, Arizona  
March 15-17, 1979**

The program format will again be a full day of workshops on Thursday afternoon and Friday morning. Friday afternoon and Saturday will be devoted to paper sessions and invited speakers. Obviously, the success of the program depends on the quality of workshop proposals and paper submissions. Let me urge you to submit your own work, to develop and sponsor proposals of good quality by nonmembers and to send me suggestions for invited speakers you would like to hear address the Society. Your efforts will be of great help to the program committee.

Papers and suggestions for symposia may be submitted by members, or by nonmembers sponsored by an SPA member.

Registration fees for the workshops are expected to be \$30 for students, \$40 for SPA members, and \$60 for nonmembers. The convention registration will be \$5 for members and \$10 for nonmembers.

Send all proposals by October 16, 1978 to:

**Nelson Jones  
School of Professional Psychology  
University of Denver  
Denver, Colorado 80208**

We hope to see you in Arizona in March.

—Nelson Jones, Program Chairman

## Book Reviews

**W. Warner Burke (Ed.).** *Current Issues and Strategies in Organization Development*. New York: Human Sciences Press, 1977, \$25.00 (\$19.95 for 5 or more students).

*Reviewed by* Rolland S. Parker

Rolland S. Parker received his PhD from New York University in 1959. He is a Fellow of The Society for Personality Assessment and a Diplomate of The American Board of Professional Psychology (Clinical Psychology). Part of his professional work has been as a career development counselor. His recent books include *Psychology and Counseling Careers* (Franklin Watts, 1977), *Effective Decisions and Emotional Fulfillment* (Nelson-Hall, 1977), and *Emotional Common Sense* (Harper & Row, 1973, and subsequent paperback editions). His writing explores the avoidance of self-destructiveness, partially through recognizing the application of one's particular style to creating and carrying out efficient decisions.

This volume is presented as a thorough review and synthesis of Organizational Development (OD), changes and trends in the area, how "sociotechnical systems" approach to change actually works, and an illustration of such new techniques as flexi-time (flexible working hours), diagnosis of management and organizational structure, and agreement management (hidden disagreement with overt conformity). Its 27 contributors are primarily university-based, with a number from private consulting firms. The areas of application are primarily business and industrial organizations, but there are useful chapters on higher education and health care systems. Since the volume originated as an NTL (National Training Laboratory) Institute in 1974, many of the chapters will reflect that well-known group's concerns and approaches.

The reviewer's inability to discover a definition in this book of OD reflects its scope and level. It will be of greatest interest to individuals who already have some knowledge of the field and its application to the world of business. The expositions are well written, but with exceptions assume that the reader understands the jargon, which could occasionally impede understanding. I found myself referring to Drucker's (1974) massive text on management for definitions (even OD is not listed

in that index!).

This writer offers a definition of OD as the attempt to change the pattern of human/organization/technology interactions. Its focus is upon the organization's output, rather than the individual's efficiency, motivation, or satisfaction. These may be utilized as elements during interventions. Summarizing the editor's comments concerning change in OD's direction will guide the reader as to whether the book will be useful. He asserts that OD is changing from a business orientation to application towards many different types of organization, away from advocating a particular management style to concern for the particular situation, from democracy towards authenticity as a value, and away from "laboratory training" and survey feedback towards a broader range of social technology. Among the psychological models used by the various authors are Transactional Analysis, Gestalt psychotherapy, and the Jungian concept of the "shadow." The editor notes (p. 40) that TA is applied almost indiscriminately.

The book's coverage is quite wide, so that the writer will not attempt a summary. Some of the material which aroused his particular interest were the chapters by Kanter on "Woman in Organizations" and the review of research by Friedlander and Brown. Several authors addressed the necessity for facing the disparity between the values of some corporate organizations and those of OD practitioners, and also the importance of setting up concurrent foci of application simultaneously within (by employees) and external (by consultants) to the client organization.

The reviewer believes that the book will be of interest to the already knowledgeable practitioner, those continuing with their training in OD, and also to students of industrial psychology. The psychologist who wants an initial orientation will need a more basic reference.

### Reference

Drucker, P. F. *Management*. New York: Harper & Row, 1974.

**Colette Chiland and Paul Bequart, (Eds.).** *Long-Term Treatments of Psychotic States*. New York: Human Sciences Press, 696 pages.

*Reviewed by* Reuben Fine

Reuben Fine received his doctorate in clinical psychology from the University of

*Southern California in 1948. Thereafter he returned to New York, where he has been active as practitioner, author, and teacher ever since. He is currently director of the New York Center for Psychoanalytic Training, director of the Center for Creative Living, visiting professor of psychology at Adelphi University, and dean-designate of the newly-formed New York School of Professional Psychology. Dr. Fine has been a visiting professor at a number of universities here and abroad, including CUNY, Long Island University, Florence (Italy), and Heidelberg (Germany). He is author of a number of books, including Psychoanalytic Psychology (1975), which has been reviewed in this journal, The Development of Freud's Thought (1973), and The Healing of the Mind (1971). Waiting to be published in 1978 are two new books: The Intimate Hour, a collection of analytic case histories, to be issued by Avery Press, and The History of Psychoanalysis, to be published by Columbia University Press.*

When I was in college one of my favorite professors used to say: This is a good book — beg, borrow, or steal it. Naturally it was out of the question, at that time, to buy a book. But now that my fellow-psychologists have reached a greater state of affluence, I would urge them unequivocally: This is an important book, go out and buy it, if not for yourself, then for your library.

The problem of the proper treatment of the psychotic is one of the thorniest questions on the current scene. While official psychiatry prides itself on its accomplishments in this area, sober consideration of the relevant data does not justify any such sanguine feeling. Szasz may be wrong in his various theses, culminating in the idea of the manufacture of madness by a mistreated profession, but he has made some telling points that cannot be ignored. Forty years ago Sullivan claimed that the then current treatment of the psychotic was neither science nor art, but sheer confusion; in spite of the drugs, those of us who observe the contemporary scene dispassionately often come to agree with him.

Before going on to the main points of the book, some brief historical comments are in order. Kraepelin left us a legacy of incorrect etiology (essentially heredity) and therapeutic hopelessness. This was the prevailing position in psychiatry until the 1930s, when the first physical treatments (insulin, ECT, metrazol, lobotomy) were introduced. But the initial enthusiasm waned; the once much-prized insulin coma approach, which its inventor Sakel claimed cured 100% of the cases of schizophrenia, has virtually disappeared. Of the

others only ECT remains as an occasional approach to depression.

In the meantime, psychoanalysis had developed various psychotherapeutic approaches. While Freud remained pessimistic, many other analysts went well beyond him. Outstanding among these was the American Harry Stack Sullivan, who in a most significant paper in 1931 reported that of young male schizophrenics with acute origin of illness, he and his co-workers were able to salvage, often with complete remission, some 61%. This result incidentally is actually better than almost any reported with the drugs today.

In the 1940s the field became divided: with one group favoring physical treatment, another psychological. As psychiatrists acquired more training, especially in psychoanalysis, the number of those doing psychotherapy with schizophrenics increased dramatically.

Then came the tranquilizing drugs, in the 1950s. Again, as in the 1930s, the claim arose that these drugs were the only way to combat psychosis; it was even alleged that psychotherapy was "contraindicated." Again, after about ten years, the initial enthusiasm began to wane. There were side-effects; the patients were reduced to zombies; many patients did not respond to any drug whatsoever. Many psychiatrists (and now also psychologists) still preferred to work psychotherapeutically. The field still remained divided. Most recently several important studies have appeared, one by Manfred Bleuler, son of the great Eugen, which maintain that the long-term consequences of the drugs are no better than treatment without drugs; in some cases worse, since the long-term consequences (e.g., tardive dyskinesia) are often serious and irreversible.

It is against this background that the present book must be evaluated. Edited by Mme. C. Chiland, an MD and PhD, professor of clinical psychology at the University of Paris, it reports the results of a conference in Paris in 1972, on the invitation of the 13th District Mental Health Association of Paris, then celebrating its 13th anniversary. The original French edition appeared in 1974.

The book is divided into four parts. Part I deals with general problems of psychosis. Part II reports on a diverse range of experiences in treating psychotics. Part III deals with the problem of the fate of psychotics, seen from the viewpoint of epidemiology, chronicity, and old age, and also in the light of cultural differences. Part IV considers the community.

A number of the contributors are French, not well known in this country. Of the others many are American, prominent in this area; they include Leopold Bellak, Harold Searles, Otto Will, Israel Zwerling, and Otto Kern-



berg, among others. With a few exceptions all the papers are of unusually high quality.

In Part I, after some desultory opening remarks, the book continues with a long article by Rene Tissot, on long-term drug therapy. This is by far the best coverage of the topic that this reviewer has ever seen in the literature. It is one of the few which does not propagandize either way, but attempts soberly to see what the objective studies of the drugs do show; his bibliography runs to 204 items.

Tissot states that the use of neuroleptics in schizophrenia (to which most of the book is confined) is now universal, yet their rationale is obscure, and their therapeutic value unclear. Arguments are marshalled pro and con. Somewhat like Omar Khayyam, he feels that he has heard great argument, yet he leaves by the same door through which he entered; the accumulation of studies has not led to any accumulation of certainty.

More clearly than other authors, Tissot cites figures on the dangerous side-effects attached to the various drugs. With long-term neuroleptics, he states, approximately two-thirds present rather intense extrapyramidal syndromes (p. 120). In his own series (small in number) he observed two cases of malignancy, of which one was fatal (p. 126). At best he agrees with Brill that while some symptoms yield to the drugs, they do not remove the inertia, the inability to work or the lack of constructive initiative.

Thus, following Tissot, 20 years of experience with the drugs, throughout the world, have not removed the uncertainties connected with them, and it would be presumptuous at the present time to offer any final answer to the most fundamental questions. The psychologists who have recently brought suit against the American Hospital Association demanding the right to treat these patients psychologically can thus rely on a wide body of empirical evidence pointing to the significance of psychological factors, evidence that has accumulated over centuries.

Several of the other papers take a stronger stand in favor of psychogenesis and psychosocial alleviative measures. Searles expresses himself "basically in opposition to the relatively non-human orientation represented by a psychiatry which would maintain its focus primarily upon diagnosis and the dispensing of drugs in accord with diagnostic subcategories." In other papers Searles has even more emphatically protested against the combination of hereditary-etiology and phenothiazine-treatment as an approach which can "usher in the long dark night of the human soul." Zwering likewise cautions against the medical model of "sick" and "well" which at

the present state of our knowledge(is), a tragic and costly error." It is heartening to see that the philosophical underpinnings of the treatment approach adopted are not neglected. By contrast, the chapter by Henri Ey, written in the classical Kraepelinian tradition, seems completely out of place, and it is not clear why it was included at all.

The longest part of the book is Part II, which describes a wide variety of therapeutic experiences and experiments. These include work in Paris, at the 13th District which hosted the symposium, as well as reports from such well-known institutions as Chestnut Lodge (Ping-Nie Pao), Menninger (Kernberg), Austen Riggs (Will), and Massachusetts (Ewalt & colleagues). In a summary paper Kestenberg suggests the apt term "caring team" for hospital administration.

It is of interest to note that France, according to some of the authors, because of the lack of psychotherapists, lags far behind the US in the dismantling of the hospitals. Far worse is the situation in more primitive communities, as Collomb reports from Africa. Clearly, the psychotic, society's scapegoat, receives the wrath of the surrounding social order, and how much wrath he gets depends on the social order. A case could be made for the proposition that every society gets the psychiatry it deserves; or put otherwise, psychiatry as practiced in any society is a reflection of the level of cultural progress.

All of the work leads to one important broad conclusion: the treatment of the schizophrenic must be geared to a long-term perspective, and must involve the resources of the entire community in psychosocial care. Zwering's paper, drawing on his experiences at Albert Einstein in the Bronx, makes this point most tellingly. The dismantling of the hospitals makes sense only if adequate community after-care is provided.

No one in this work pretends that anything other than long-term intensive care would have any real effect. This is one of the factors that casts doubt on many of the statistical studies involving the drugs, such as the much-quoted work by May (1968). Quick cure of anything as serious as a psychosis is a figment of the imagination, whether it be approached via insulin, drugs, or psychotherapy. But even though these patients get better slowly, the fact is that they get better. Christian Muller, a Swiss psychiatrist, even contributes one curious statistic that schizophrenics improve with age! Bleuler also reaches this conclusion in his recent paper. Evidently the gross and wholesale deterioration which was the hallmark of the schizophrenic for centuries were more the result of hospital and community neglect than

of illness as such.

Thus the important conclusion emerges: psychotics are treatable if approached by adequate psychotherapy and psychosocial measures over a long period, if necessary over a lifetime. Drugs offer temporary relief in many cases; their long-term continuation may involve the patient in serious dangers. Etiologically this would argue for a psychogenic origin.

Obviously this essential conclusion is of vital importance to anyone working with psychotics on the current scene. It is the great merit of this book that it presents the evidence so clearly and succinctly.

The picture of Mme. Chiland on the flyleaf reveals an unusually warm and attractive personality.

A. R. Ciminero, K. S. Calhoun, and H. E. Adams (Eds). *Handbook of Behavioral Assessment*. New York: John Wiley & Sons, 1977, xii and 751 pages, \$27.00 hardbound.

Reviewed by John E. Bassett

Dr. Bassett has served as Director of the Self-Management Program at the Shelby County Penal Farm in Memphis, Tennessee, for the past five years. During this time he has published and presented numerous papers on the application of behavioral techniques within correctional settings. Currently, his research interests include the behavioral assessment of prison environments as a target for system intervention and change.

It has been said that measurement is the earthen floor of all scientific development that from which all else is built and on which it stands. It is curiously interesting that the "behavioral" approach to human maladies has only in very recent years gotten around to inspecting their foundation. Assessment, at least as broadly defined, accompanies all intervention strategies irrespective of orientation. It has only been in the last 3-5 years that behavior therapists have decided to target "assessment" as an area of interest and high priority. The result to date has been an almost explosive avalanche of convention papers and symposia, journal articles, and finally books, mostly of the edited variety, on the general topic of, "behavioral assessment." This reviewer, being reasonably wellread and current with these new offerings, found the *Handbook of Behavioral Assessment* without superior. The author-editors Ciminero, Calhoun, and Adams, colleagues at the University of Georgia, are to be highly com-

mended for getting the right people to write on the needed topics. The text is a handbook as claimed in the title and not merely a collage of related works. The text is also a reference manual organized with an exemplary format. Without detracting credit from the Georgia trio, one wonders about the extent to which Irving Weiner influenced the contents and/or organization of this book since a growing number of books under his general editorship seem to possess these much desired traits.

A three-part format is used in the *Handbook* which corresponds roughly to the "What," "How," and "Where" questions of behavioral assessment. Part one, a four-chapter introduction to the text, provides a very useful delineation of what behavioral assessment is about, what the basic issues and problems are, and quite importantly, the critical contrasts between behavioral assessment and the traditional methods of psychological assessment. Part one, with the exception of Chapter 4, which deals with instrumentation for behavioral assessment (this chapter, while very well written, seems to have been stuck in the "general issues" section for lack of a better place to insert it), should prove to be an excellent supplemental reading source for many "nonbehavioral" courses at the graduate level (e.g., traditional assessment and psychometric courses).

Perhaps the most disappointing aspect of the "general issues" section, and the entire book, was the insufficient attention given to the ethical issues in behavioral assessment. The mere 36 lines (pp. 40-41) devoted to the ethics issues is not only disappointing but actually surprising since the authors of this chapter, Goldfried and Linehan, state "...behavior therapists have been particularly sensitive to the moral decisions in selecting the goals and methods of therapy" (p. 40). Certainly one of the major points of the entire "issues" section is that a unique feature of the behavioral approach is the inseparability of "assessment" and "therapy." Thus, the next statement of these authors, "By contrast, few concerns have been raised regarding the ethics of behavioral assessment" (p. 40), seems highly incongruous. Quite to the contrary, a great deal of the controversy surrounding the entire behavioral approach has been directed toward the assessment procedure, i.e., the process by which behavior therapists arrive at the selection of "goals" and target behaviors.

Part two has six chapters describing "how" behavioral assessment is done in terms of specific methods: behavioral interviews, self-report inventories, self-monitoring techniques, direct observation procedures, and a potpourri of psychophysiological measuring

techniques. The chapter on interviewing is quite weak in contrast to the others and offers little for the practitioner or researcher. The other five chapters in this section are quite commendable, particularly for those interested in the methodological issues and problems of the specific techniques (e.g., reactivity of self-monitoring, validity problems in analogue studies, etc.).

The final section has seven chapters and deals with the issues of "where" these behavioral assessment procedures have been used. Included in this section is the assessment of anxiety, addictive behaviors, sexual behaviors, social skills, marital conflicts and accord, child behavior problems, and psychotic behaviors. All seven of these chapters are well written substantive reviews of assessment procedures and issues from the literature on the various target areas. Most readers will be pleased with this section if their interest area has been included. The only shortcoming of this section, and for obvious reasons, is that certain behavior problems had to be omitted. Thus, as an example, the social skills chapter by Hersen and Bellack is limited to dating behaviors and assertive behaviors.

In summary, Ciminero, Calhoun, and Adams, along with their 28 contributors, have done a masterful job in putting together the *Handbook of Behavioral Assessment*. This sorely needed text is impressive in its coverage, remarkably precise, clear and well written across authors and, above all, organized and structured so as to provide a convenient framework for a previously amorphous area of the behavioral literature. This handbook is certain to be a "classic" on the desk of all behavioral-minded practitioners and researchers.

**Rue L. Cromwell, Earl C. Butterfield, Frances M. Brayfield, John J. Curry, James V. Dingell, Mary Headrick Haynes, Carol Raff Tarica, and Barbara E. Siebelt.** *Acute Myocardial Infarction: Reaction and Recovery*. St. Louis: Mosby, 1977, 224 pages, \$10.50.

*Reviewed by Albert Eglash, PhD*

*Dr. Eglash is in private practice in San Luis Obispo, where he teaches Continuing Education courses in medical psychology to health-care professionals.*

This text, concerning myocardial infarction (MI) patients on a coronary care unit (CCU), is a highly sophisticated, meaningful study worthy of its massive interdisciplinary effort, "an odyssey in conducting coronary

care research...a book for nurses...for physicians...for the research scientist...for psychologists...for educated lay persons" (pp. v, vi, ix).

Designed to answer crucial questions of psychosomatic psychology — What are the psychological factors that influence a patient's comfort and cooperation? length of CCU and hospital stay? recurrent MI? recovery or mortality? —, the project comes up with some clear answers: Giving patients information about their illness, but with little opportunity for diversion or participation, increases length of hospitalization (p. 29). Moreover, "Personality factors, rather than enzyme levels or cardiographic data, are the most useful and powerful in predicting recurrence of MI.... Symptoms were...markedly related to patient personality.... All patients who died were...either internal control with high anxiety or external control with low anxiety" (pp. 37-40). Return to employment correlated, not with medical symptoms, but with patients' personalities (p. 42).

It is regrettable that Cromwell's publishers insisted that he add a section on the management of MI, for the section does not follow his own findings. For example, his most startling finding is that a mood of low affection is predictive of death, and his 30 pages of discussion and recommendation never mention this. He devotes an entire chapter to promoting physical exercise, a recommendation wholly unrelated to the psychological variables — nursing procedures and patients' personalities — which he investigated.

Despite its heavy load of technical data, this is a well written book with helpful and informative appendices; and I have felt tremendous admiration, even awe, for its conception.

But my positive feelings as a psychologist, my appreciation of its scientific value, are mixed with my sense of shock and dismay — as a Jew who nightmares Dachau — that a major study of stress is imposed upon those whom Cromwell recognizes as having reacted to life stresses with MI, and who are already in a highly stressful situation (pp. 4, 25).

To produce a sense of frustration and failure (p. 24) in these critically ill patients, he imposed a disguised insoluble problem which elevated their fatty acids, a condition predictive of death (p. 57); and took additional blood samples, which alarmed the Research Committee (p. x).

He imposed nursing procedures inconsistent with patients' personalities: "All those who had recurring MIs or who died had the incongruent combinations" (p. 36), internal control patients denied opportunity for self-participation, or externals placed in the high-



participation category.

Since Cromwell had base-rate data, perhaps his own goals could have been achieved better with a therapeutic-intervention design, a psychologist demonstrating that nursing function matched to patient personality decreases monitor alarms, CCU and hospital stay, MI recurrence, and mortality.

Cromwell courageously brings this ethical issue into the open. The Human Rights Committee of Vanderbilt Medical School, and Holy Cross Hospital's own Research Committee, objected that "some of the procedures would endanger patients' lives" (p. xiii). Nurses objected to "the need to assign randomly the incoming patients to nursing care procedures," disregarding "the patient's personal needs," and "were resistant to cooperation" (pp. xi, xii). Cromwell's own team was concerned that their study might cause "greater illness or death... a patient might die or become more seriously ill as a result of our research activities" (p. x).

The Research Committee eventually approved the project, and Cromwell expresses the opinion that "no death or even minimal complication occurred as a function of the... research" (p. xiii).

Ethical issues aside, I would evaluate this as a classic of applied personality assessment. Seldom do our personality traits spell the difference between life and death. Cromwell has demonstrated that MI is one of these occasions; and any CCU taking the lesson *to heart* can save lives.

**Deborah Heller Feinbloom.** *Transvestites and Transsexuals*. New York: Delta, 1976, 303 pages, \$3.95.

*Reviewed by Howard B. Roback*

*Howard Roback, PhD is Associate Professor of Psychiatry and Psychology at Vanderbilt University. He performs the psychological evaluation of sex-change applicants at Vanderbilt Hospital, and has published several research articles contrasting the psychological well-being of transsexuals with clinical and nonclinical groups.*

With the presently large amount of media attention to the tennis player-physician, Dr. Renee Richards, who before sex-change surgery was Dr. Richard Raskin, it is not surprising that a number of recent articles and books on transsexualism have cornered the popular press. However, unlike the glut of biographies and sexually provocative accounts of trans-

vestism and transsexualism currently available, Dr. Feinbloom's relatively short (303 pages), but well documented book, provides a primarily sociological perspective for enabling the man-in-the-street to become better informed of the behavior, problems, lifestyles, and concerns of transvestites and transsexuals. For example, in Chapter 9, Dr. Feinbloom explains the unique and complicated interaction patterns of both the pre- and post-operative transsexual. It is pointed out that "friendships made after a stigmatizing experience or event may be easier to maintain than those made before." In terms of the post-operative male transsexual, old friends remember "him" as male and consequently have difficulty processing the individual as now being female, whereas new friends can comfortably relate to the "now" of the person. The sex-change person has a similarly difficult time shifting his interpersonal roles. For instance, Feinbloom quotes Ruth (a male transsexual) who reports that every time she goes back to her hometown she gets very tense because "I see people I used to know as Ted. I wonder if they recognize me... I never know if I should say hello or not... I like it so much better in the city where only a few people know about Ted, but everyone else knows only Ruth (p. 229)."

A corollary of the sociological approach, and one of the book's most valuable ideas is that sexual nonconformity is not *prima facie* evidence of psychopathology. For example, Dr. Feinbloom notes in Chapter 2 that the "psychiatric profession is now becoming aware of the healthy homosexual (p. 16)." Historically, much of the psychiatric literature on homosexuality was based on the study of clinical populations. Now, many homosexual individuals with no discernible problems, and with no psychiatric history, are identifying themselves as gay.

Although Dr. Feinbloom has directed this book to "lay readers," other suitable audiences appear to be students of human sexuality and family practitioners who are likely at some time in their practice to interface with the type of persons described in this volume. Perhaps such a book will enable the health care professionals to be more sensitive in their dealings with these individuals and not merely cognitively manage their unusualness by labelling them as "mentally ill" with the inevitable consequences of such typing.

As the clinical enterprise is susceptible to the proclivities of the mainstream culture that sanctions it, this well-written and highly informative book will hopefully enable the general public to undergo a liberalization of attitudes towards traditionally oppressed, non-normative groups.



**Martin Kohn. *Social Competence, Symptoms and Underachievement in Childhood: A Longitudinal Perspective*.** New York: Halsted, 1977, 288 pages, \$16.75.

*Reviewed by James A. Wakefield, Jr.*

*Dr. Wakefield received his PhD in educational psychology from the University of Houston and completed a school psychology internship with the Houston Independent School District. He has published research in personality assessment, ability testing, and language learning. He is currently Associate Professor of Psychology at California State College, Stanislaus.*

This book presents a longitudinal study of social-emotional functioning in preschool and elementary school children. A random sample of 1232 children attending public day care centers in New York City was followed for five years. At the beginning of the study, the subjects were 3, 4, or 5 years old. At the end of the study, the oldest group had completed the fourth grade. Although Kohn managed to retain 74-79% of the original subjects for the five-year period, he pointed out a small tendency for the data from more disturbed children to be missed in the last year of the study.

The object of the study was to investigate the predictive usefulness of emotional disturbance in the early school years. The major concerns of the study were (a) the epidemiology of emotional impairment and academic achievement, (b) the longitudinal persistence of emotional impairment, and (c) the relationship between emotional impairment and academic underachievement.

Two factors, shown to be stable and relatively independent, defined emotional disturbance (as well as positive emotional status) in this study. The first factor was Interest-Participation versus Apathy-Withdrawal, which measured the child's active participation. The second factor was Cooperation-Compliance versus Anger-Defiance, which measured the child's acting-out or aggressive behaviors. These two factors were particularly interesting in that several earlier investigators had identified similar symptom clusters as major components of emotional disturbance. Terms from earlier studies that are roughly equivalent to Kohn's Interest-Participation versus Apathy-Withdrawal are "personality problems," "over-inhibited behavior," "introversion," and "neuroticism." Kohn's Cooperation-Compliance versus Anger-Defiance corresponds to terms such as "conduct problems," "behavior prob-

lems," "aggression," "delinquency," "extroversion," "hostility," and "anti-social behavior."

That study assessed the effects of and attempted to control for a variety of variables that could explain the existence of emotional impairment and its effects on academic achievement. Age, sex, social class, family intactness, ethnicity, and a verbal fluency rating (as a rough measure of intelligence) were included in the analyses presented in the book. Hierarchical multiple regression analyses were performed on the data to predict third and fourth grade emotional variables and third grade achievement variables (verbal and arithmetic) from the demographic variables and the preschool and first grade emotional variables. Using regression analyses, the relationships between early emotional variables and later variables (both emotional and achievement) were examined with the demographic variables statistically controlled.

The major results of the study were that emotional impairment accounted for a substantial portion of later emotional impairment even after the demographic variables were controlled and that early emotional impairment contributed a moderate amount of variance to the prediction of verbal and arithmetic achievement, especially when another variable, Task Orientation, was included in the analysis. Also, in predicting both emotional and achievement criteria, the early emotional measures accounted for more variance than did the demographic variables. Although the relationships were not precise enough to predict an individual child's emotional status or school achievement with confidence, they were strong enough to be used in screening for children who are "at risk."

Two criticisms of the study should be made. First, by underachievement, Kohn did not mean achievement that is lower than would be expected from intelligence tests or previous achievement data, which is the usual meaning of this term in educational research. He meant simply low achievement. Although a preschool verbal fluency rating (for intelligence) was used in two analyses, Kohn did not assess the influence of the emotional variables with verbal fluency controlled. Second, as Kohn pointed out, since all his subjects came from public day care centers, the influence of the restricted demographic variables on emotional and achievement variables was probably underestimated.

Practically, the results of this study show that early measures of emotional status account for, and can be used to screen for, later emotional impairment and low academic achievement. Further, a substantial portion of

the prediction is independent of other (demographic, family, and verbal development) variables commonly used in the early identification of children in need of intervention, and thus can improve screening procedures when used with the other variables.

The results are not completely clear concerning the causal relationships among emotional variables, achievement variables, and demographic variables. However, they do indicate that "social causation" (i.e., that demographic variables cause emotional and achievement deficits) is not the whole story, or even, in Kohn's sample, a very large part of it. Similarly, academic failure cannot be the sole cause of emotional impairment, since preschool emotional impairment is related to later academic failure. These variables could be mutually causal, with impairment in one leading to further impairment in the other.

In summary, Kohn's book is rich in information and statistical analysis and, consequently, difficult to read. It must be studied—and it should be, by school psychologists and child-clinicians as well as by applied researchers. Although certainly not without flaws, the longitudinal perspective and the multiple regression technique make this book both an important source of practical information concerning emotional precursors of achievement and a good model for applied research.

**Allan Markle and Roger C. Rinn.** *Author's Guide to Journals in Psychology, Psychiatry, and Social Work.* New York: The Haworth Press, 1977, 256 pages.

Reviewed by Robert T. Kurlychek

The reviewer is currently Director of the Psychological Services for Lane County Adult Corrections in Eugene, Oregon. His research interests include offender therapy and assessment, treatment of sexual dysfunction and deviancy, and community corrections.

Markle and Rinn have contributed a comprehensive, finger-tip resource of over 450 journals listed in the major abstracting services in the psychological, psychiatric, social work, and social sciences fields. This work is a long overdue and time-saving aid to publishing authors, especially those new to the game.

From information obtained by questionnaires sent to journal editors the authors provide, for each journal included, a table of valuable information for the prospective contributor. Besides such basic information as the correct address for submitting manuscripts and subscription costs, the authors present the

major content areas which are of prime interest to the journal, the types of articles usually accepted, a list of preferred topics, and inappropriate manuscript categories. While much of the above information could be gleaned by a familiarity with or even a quick perusal of a journal, the authors also provide decisive information learned through communication with the journal editors. This includes the editor's estimate of the usual interval between acceptance and actual publication, the average interval between reception of a manuscript and notification to the submittant of acceptance or rejection, and the editor's reported estimate of the approximate percentage of manuscripts accepted for publication. Finally, the authors indicate the style requirements of each journal, its circulation, and reprint policy.

The journals listed in this book are indexed by title, subject area, and key words within the title providing the reader with a rapid vehicle for locating the appropriate journals.

Although the authors' questionnaire approach elicited a high percentage of responses, a significant number of editors evidently did not respond or responded incompletely. The sight of "not given" seen so often in this book can be frustrating to the reader. Another criticism is the lack of a category indicating the publication charges, if any, required of the author.

For the researcher and clinician seeking a forum to present his or her theories or findings, the *Author's Guide* will open up a wider selection of possible avenues of presentation.

**Frank J. Menolascino.** *Challenges in Mental Retardation: Progressive Ideology and Services.* New York: Human Sciences Press, 1977, 326 pages, \$16.95.

Reviewed by William M. Reynolds

William M. Reynolds (PhD University of Oregon) is currently an Assistant Professor in the Department of Educational Psychology and Statistics at the State University of New York at Albany, where he teaches courses in mental retardation, tests and measurement, and the psychology of intelligence. He has published and done research in the areas of psychological testing, mental retardation and response styles. He is co-author of a test of social and prevocational competencies (Social and Prevocational Information Battery—Form T) for use with retarded persons, and a rating scale designed to measure learning-related classroom behaviors of elementary school children (Classroom Behavior Rating Scale). He has recently completed

with Norman Sundberg and Lonnie Snowden, and Annual Review of Psychology chapter entitled "Toward Assessment of Personal Competence and Incompetence in Life Situations."

*Challenges in Mental Retardation* fills, as did Frank Menolascino's previous book *Psychiatric Approaches to Mental Retardation*, a void in the field of mental retardation. Menolascino is one of the few psychiatrists who has seriously and consistently contributed to the field of mental retardation via cogent research, theory, and clinical service. It is this tripartite approach to mental retardation which is utilized in his latest book. It would, however, be a disservice to state that this volume is of significance only to the field of mental retardation. It also contributes to psychiatry and clinical psychology by providing a current synopsis of needs and problems, particularly emotional and behavioral, of mentally retarded persons.

The content of *Challenges in Mental Retardation* is of value to all professionals who work or come in contact with retarded persons. This book, unlike a basic textbook in mental retardation, deals with current issues. This is illustrated by chapters such as "Sexual Problems in the Mentally Retarded," "The Mentally Retarded Offender," "De-institutionalization," "Recurrent Problems and Errors in Behavioral Management" and "A Crisis Model for Helping Parents to Cope More Effectively."

The book is divided into three sections: Modern Ideological Trends and Needs, Unique Social-Behavioral Challenges to the Mentally Retarded, and Practical Issues in Management. In the first section Menolascino sets the tone of the book by briefly examining past and present psychiatric involvement in mental retardation, conceptualizing what he comprehends to be an "identity crisis of the psychiatrist in mental retardation" (p. 58). In the Modern Ideological Trends chapter in this section, the reader is provided with a description of the National Association of Retarded Citizens (NARC), which has been a major force in the upgrading of services and programs for mentally retarded persons. Trends such as normalization and the utilization of a developmental approach to mental retardation are clearly stated and reflect the current consensus within the field of mental retardation. Professionals who are not familiar with the current thoughts of the American Association on Mental Deficiency or the President's Committee on Mental Retardation should find this section enlightening.

The second section, Unique Social-Behavioral Challenges to the Mentally Retard-

ed, is of particular value to the psychiatrist and psychologist, containing chapters on emotional disturbance, criminal behavior, and sexual problems in the mentally retarded. The chapter on emotional disturbance is the longest chapter of the book and justifiably so, since this area has been generally overlooked by psychiatrists, especially within a services/management context. The nomenclature used in this chapter makes it apparent that the author is a psychiatrist. The use of psychiatric terminology does not, however, detract from this chapter, but rather increases the clinical utility. As the author correctly states, there exists a high incidence of emotional disturbance among mentally retarded persons. Within this context Menolascino notes:

Emotional problems which often complicate the lives of mentally retarded individuals are being increasingly appreciated. Equally important in contemporary thinking is the knowledge that mentally retarded individuals no longer represent a homogenous group in any characteristics: intellectual, physical, social, or cultural. In brief, the mentally retarded individual is a thinking and feeling individual who, like any other person, is prone to similar emotional problems and social difficulties. Like the more normal child, the mentally retarded child may avoid facing his problems and may become anxious, aggressive, hostile, and antisocial. Similarly, he may be responsive, friendly, passive, and cooperative like other children (pp. 172-173)

The author takes a behavioral approach to the management of the emotionally disturbed mentally retarded person, although it should be emphasized that it is the approach to the management, and not behavioral techniques, which is proposed in this chapter.

The chapter on the retarded offender and sexual problems in the retarded are very brief, and serve only to illustrate two areas in which there is changing societal conceptualization of mental retardation. Because of the increasing awareness and importance of these two issues, it is unfortunate that more content was not provided.

Section three, "Practical Issues in Management" provides applied suggestions for the management and provision of services for the mentally retarded. As with chapters in the previous sections, the author is most effective when he fully develops specific chapter content. Two chapters in this section are particularly well done. One deals with helping parents effectively cope with a retarded child, an area in which there exists a definite need for attention by professionals. Rather than describe areas of need as is done in previous chapters, Menolascino develops an intervention model designed to provide clinicians with an approach for meeting the mental health needs of families of



retarded children. Within this model three forms of parental response to a retarded child are discussed: novelty shock, value conflict, and reality stress. Intervention strategies along with community/social services are woven into this model, contributing to its clinical utility. The second chapter of note in this section concerns the de-institutionalization of retarded persons. De-institutionalization is currently a major topic of discussion in the field of mental retardation and is central to the concept of normalization which emphasizes that persons should live within the least restrictive environment appropriate to their needs. Psychiatrists need be aware of this trend and understand the systems for resettling retarded persons into the community. Menolascino's experience in the National Association for Retarded Citizens and the Eastern Nebraska Community Office of Retardation (ENCOR) helps him bring into focus the advantages and limitations of de-institutionalization in addition to the service and program requirements of de-institutionalized persons.

When this reviewer started reading this book, he questioned the title *Challenges in Mental Retardation: Progressive Ideology and Services*. What did it mean? He has come to the conclusion, after reading the book, that the title is appropriate and also descriptive. The book combines a novel and current service approach to mental retardation while developing an applied ideology with which most professionals in the field of mental retardation would agree. One minor problem with the book is that at times it is not clear for whom the author is writing. The basic orientation appears to be toward psychiatrists/clinical psychologists although in some chapters the writing seems geared to a more general audience. This, however, does not detract from the book's utility for the professional in human services who works with retarded persons.

A. Monat, and R. S. Lazarus, *Stress and Coping: An Anthology*, New York: Columbia University Press, 1977, 426 pages, price unknown.

Reviewed by Robert H. Woody

Robert Henley Woody, PhD (Michigan State University), ScD (University of Pittsburgh), is a Fellow of APA and SPA and a Diplomate in Clinical Psychology, ABPP. He is Dean for Graduate Studies and Research and Professor of Psychology at the University of Nebraska at Omaha. He is currently preparing his seventh book, the Ency-

clopedia of Clinical Assessment (to be published by Jossey-Bass).

The editors are correct in their belief that a book is needed on stress and coping that will provide a "broad sampling of available writings, theoretical and empirical in nature." That is, material available to date seems to be heavily experimental and/or of one theoretical persuasion, thereby failing to meet the pragmatic needs of the clinician.

The book is geared "primarily to the undergraduate student," and the editors believe that it should be "highly appropriate, not only to courses related directly to stress and coping, but also to those concerned with psychological adjustment and health."

The editors indicate that the selection of material was based on four criteria: first, they sought material dealing primarily with humans; second, they wanted to emphasize naturalistic studies; third, they concentrated on material during the last ten years, including only critical studies before that time-frame (such as by Cannon, Lindemann, Menninger, and Selye); and fourth, they avoided methodological issues on grounds that "these topics tend to bore and perplex most graduates." The latter criterion might limit the book's value for the practicing professional, but it should lead to student interest.

Following an introductory chapter by the editors (which deals with major issues), chapters are organized into five sections: stress and some of its effects; stress and the environment; the nature of coping; coping with transient life crises; and coping with death and separation. Each section is summarized at the onset by the editors.

The editors have done an admirable job of selecting meaningful chapters. It should be noted, however, that apparently each chapter has appeared in at least one other source. Since the sources are diverse, including anthropology, psychosomatic medicine, psychiatry, pediatrics, and various sociological and psychological journals and texts, the volume does serve the important purpose of bringing together references to which disciplinary boundaries would frequently preclude access. All of the selections are relevant, and there are a number of "classics" that certainly merit reprinting.

American society is definitely in an age where all health-related professionals must be prepared to recognize and deal with the stress inherent to human functioning. There seems no doubt that stress holds potential for deleterious effects to the body and mind and that all "therapy" encompasses assessment and modification of stressful conditions. This volume successfully accomplishes the objective of providing a theoretical framework void of allegi-



ance to any one theory and beyond any single discipline. The first three sections are particularly strong for providing an academic understanding of stress. Perhaps the major criticism is that the selections in the fourth and fifth sections sometimes become a bit specialized, such as those dealing with burn patients and grieving for a lost home, and may, in the process, fail to give comprehensive technical scope. That is, the practitioner may be left to derive practical guidelines for clinical services, with this derivation process being based on technical examples that may or may not yield adequate illumination of all areas of day-to-day crises.

As one who is usually skeptical about books of readings (since I believe it is not beyond the responsibility of the professional to spend time in the library reading journal articles), this book seems unique in that it does have redeeming value as a reference source. There should be some reservation, however, about this volume's suitability for undergraduate students. Some of the writings may be beyond the grasp of undergraduate students (except those who have achieved a certain degree of specialization in the advanced stages of their undergraduate program). Much of the material could be used at the graduate level in essentially any of the human services training programs. For the clinician interested in improving his/her orientation to the effects of stress and the theoretical and technical concomitants as public interest in the impact of stress on health would dictate, this volume is worth having available.

**Contantina Safilios-Rothchild.** *Love, Sex, and Sex Roles*. Englewood Cliffs, N.J.: Prentice-Hall, 1977, 150 pages, price not given.

*Reviewed by Luciano L'Abate*

*The reviewer is Professor and Chairman of the Family Studies Program in the Psychology Department at Georgia State University. He teaches a course on Personality Development in Marriage that deals with issues considered in the book reviewed here. With Bess L'Abate he published recently a book on How to Avoid Divorce, and, with his graduate students, training manuals to teach how couples can learn to get along sexually and otherwise.*

It is a pleasure to read a not-how-to book! We have been so preoccupied with sexual performance that we had forgotten the context and background of sex, the game we play with each other through battles, wars, and some victories!

Here we have as straightforward and complete an account of the battle of the sexes as I

have read anywhere. Its seven chapters are dedicated to love as a "many-splendored thing," the "objectification" (a favored term in this book) process of women by men and of men by women; cultural and societal barriers and myths to the dehumanization and development of love; the relationships of sex and love with strangers, friends, and colleagues; the dangers of the transition period that we are all experiencing; and the future of love and sex.

Even though this book is part of a series (Spectrum) devoted to lay audiences, it would be useful to advanced undergraduate and graduate students writing a term paper on love and sex roles, as well as to academicians researching this topic. Clinicians interested in sex role stereotypes and therapists interested in exploding sexist myths will find this book very useful. I would recommend it (as I have) to graduate students studying the politics of sex. It joins a controversy, found mostly in sociological and family oriented journals, covering changing roles and life-styles in the U.S.A. Any reader interested in this controversy would need to read this book.

The thesis of this book is (p. 126) that: "...the traditional notions of masculinity and femininity have tended to dehumanize love and sexuality. An important element of this dehumanization has been the frequent separation of love from sexuality as a 'special' human expression." If we were able to give up the stereotyped games we play to win control and upper-hand, we may be able to find an equality of sex roles and relations that may reach, in this book's crystal ball, idyllic ideals. In this optimistic prediction this reviewer parts company from the book. I wish it were so simple, i.e.: If we give up traditional stereotypes and games and allow ourselves more sexual options and variety without major inhibitions, we are going to be OK. Even granting that variety is the spice of life, and that monogamous heterosexual marriages have been receiving a severe beating lately, where is the line between variety and what is old-fashionedly called "promiscuity"? This and other sociological books of the same ilk (L'Abate, in press) do want to advocate an alternative life-style of less permanency, greater variety, and more experimentation as solutions to our sexual hangups. Scandinavian countries are still used as prime examples of such freedom, but other sociological indices, like suicide or venereal disease, for that matter, are nowhere considered.

The lively arguments found in this book are based on logical as well as empirical grounds welded together gracefully and tightly. Most of the relevant psychological (some sociologists know more about our literature than some of us know about theirs...) and sociological liter-

ature up to 1975 is included. Of course, some of the arguments presented here will need further empirical documentation.

Where do we stand as psychologists on this topic? Are we "open-minded," "liberal" or "prudes"? What can we add to this controversy about new life- and sex-styles? In this area personality factors are crucial in establishing relationships (if any) between traditional and alternative life-styles. Are these choices a matter of age and SES or are they determined also by individual personality factors? What are these factors? Clearly this is a challenge to us. How many of us will take it?

#### Reference

L'Abate, L. J. *Ramey's intimate friendships. Journal of Marriage and the Family* (in press).

**Norman D. Sundberg.** *Assessment of Persons*. Englewood Cliffs, New Jersey: Prentice Hall, 1977, 353 pages, \$11.95.

*Reviewed by Daniel S. Weiss*

*The reviewer is an advanced doctoral student at the University of California, Berkeley, and a research assistant at the Institute of Personality Assessment and Research. His major interests are in personality assessment and theory, and person perception.*

The small textbook is another in a series (see Weiss, 1977) designed primarily for use by undergraduates. According to the author, however, the range of the intended audience is somewhat larger; Sundberg includes laymen, related professionals such as nurses, and graduate students in his audience. This increased purview strains an otherwise workmanlike account of personality assessment. Not surprisingly, all of the people will not be pleased all of the time.

Sundberg's emphasis in personality assessment is, as his title reveals, on persons. Using a systems theory framework (inputs, boundaries, outputs), he sketches the many factors involved in accounting for "... the ways by which people understand, measure, and make decisions about the psychological characteristics of other individuals and themselves" (p. 1). Sundberg emphasizes the importance of different levels of systems and also the relative importance of some systems over others to different kinds of people. With this broad conceptual background, Sundberg offers his definition of personality assessment:

the set of processes used by a person or persons for developing impressions and images, making decisions and checking hypotheses about another person's pattern of characteristics which

determine his or her behavior in interaction with the environment (p. 22).

This definition concentrates on the processing of personological information, the more traditional view is supplemented by a pragmatic and use-oriented outlook.

By thus widening the scope of assessment, Sundberg emphasizes a very important point which tends to be ignored in much strict academically oriented discussion of assessment. That is, assessment is always for a purpose and must be evaluated in relation to that purpose. Thus, standards are not immutable and a "good assessment" depends upon the goal of the assessment.

Sundberg's initial chapters concern quantifying personal information, interviewing and observing, assessment of life history, assessment of persons in context, and biopsychological assessment. These are followed by the three core chapters on behavioral techniques, objective techniques, and projective techniques.

The chapter on quantification is perhaps the most problematic. Much of a textbook could deal with reliability, validity, testing in general, base rates, and the like. Sundberg's treatment of these topics is adequate for undergraduates, but will not do for the more sophisticated in his intended audience. Moreover, an absence of an overall structure or organizing idea impedes comprehension of the basic technical concepts. One is left wondering, for example, why questions about validity are asked. A beginning student needs a statement of why validation evidence is scientifically necessary. The chapter on interviewing and observing, by contrast, provides the explanatory support which is needed.

The chapters on life history and contextual assessment have similar purposes in that each attempts to show how a static view of the individual is an insufficient attempt to account for his or her personality. Sundberg notes that developmental stages need to be assessed. Additionally, however, temporal changes and trends affect understanding and must also be considered, a point which Sundberg overlooks. There is no discussion of the measurement of change; this perennial conundrum deserves at least comment if not explication. The contextual viewpoint, Sundberg suggests, can account for individual differences among people that are not the direct result of person characteristics. Assessment, therefore, must be concerned with the measurement of environmental variables that exert effects on individuals.

The core chapters on behavioral, objective, and projective techniques are the heart of any text on personality assessment. Here Sund-

berg warms to the task and presents the material in a clearly articulated and organized fashion. One might quarrel only with the classification of objective techniques into "...two classes, those aiming to reveal maladjustment, and those concerned with interests and values" (p. 199). This would leave, for example, the California Psychological Inventory, which was given special note earlier in the discussion of objective techniques, as a residual, fitting into no classification.

Following the three core chapters, the text shifts focus to the assessment of cognitive abilities and competencies and moves on to issues of integrating information and presenting assessment write-ups for particular purposes and uses. These chapters are followed by a chapter entitled "Assessment, Society, and the Future." In this last section Sundberg lays out his ideas about the unfinished business in the field of personality assessment and also reveals his ideas about the likely important societal forces in the future. The tie between this future orientation and the emphasis of the text, however, is somewhat forced.

There is one vexing statement contained in the text which deserves mention. Sundberg states, in his discussion of the formation of criterion groups for the item analyses in the construction of the MMPI, that "... psychiatric diagnosis of schizophrenia, psychopathic deviation, and other disorders are notoriously unreliable..." (p. 197). Elsewhere (p. 279), Sundberg recommends Meehl's provocative chapter "Why I don't attend case conferences" to his readers. On the diagnosis issue, Meehl speaks forcefully.

I merely point out that the majority of psychologists and psychiatrists in this country persist in reflexly repeating the dogma 'Diagnosis is very unreliable' without paying due attention to the diagnostic circumstances and personnel involved in various studies, or telling us how unreliable something has to be before it is 'very unreliable' (1973, p. 274).

Sundberg's students would do well to note Meehl's point.

Despite the imperfections suggested, *Assessment of Persons* can serve as a competent introduction to methods of assessment. Its coverage is wide and for uses which do not primarily concentrate on personality assessment, this text is appropriate. For uses more specifically emphasizing personality assessment however, some supplementation with Sundberg's suggested readings seems wise. These readings can add the needed structure and interpretation for the detailed information which Sundberg offers without that structural support.

## References

- Meehl, P. E. *Psychodiagnosis: Selected papers*. Minneapolis: University of Minnesota Press, 1973.
- Weiss, D. S. Review of R. Hogan, *Personality Theory: The personological tradition*. *Journal of Personality Assessment*, 1977, 44, 323-324.

A. Thomas and S. Chess. *Temperament and Development*. New York: Brunner/Mazel, 1977, XV, 270 pages, \$13.50.

Reviewed by A. I. Rabin

The reviewer is professor of psychology at Michigan State University and former director of its psychological clinic. He also taught at the City University of New York, and at several universities in Israel and Denmark. He published widely in the areas of personality development and assessment, clinical psychology, and psychopathology. His latest edited book on "Clinical psychology: Issues of the seventies" was published by Michigan State University Press in 1974. Rabin was consulting editor of the *Journal of Consulting and Clinical Psychology* and is currently consulting editor of the *Journal of Personality Assessment*.

For the past two decades, the authors of this volume and their collaborators have followed a new direction in the study of human development. They have reacted against the dominant environmental hypothesis in the genesis of individual differences and have concentrated upon a temperament oriented, implicitly genetic, emphasis of development from infancy to adulthood.

The first two volumes have detailed their schema of temperament ratings in infants and young children, have showed consistency in temperament patterns and have described the interaction of temperament with environmental factors. In the first and second volumes, published in 1963 and 1968 respectively, the authors have set forth a comprehensive schema of nine character traits (activity, rhythmicity, approach-withdrawal, adaptability, threshold of responsiveness, intensity of reaction, quality of mood, distractibility, and persistence). They showed that these temperament characteristics are identifiable early in life (shortly after birth) and show a fairly high degree of persistence in early childhood. In the second volume they have reported on a subsample of the larger experimental group who were characterized as children with behavior disorders. According to the data presented, the major causes underlying the behavior disorders are due to a sort of mismatch between tem-



perament trait patterns and the demands and expectancies of the parents and family.

Those readers who expected this volume to be a further follow-up of the children with behavior disorders will be, like the present reviewer, rather disappointed. No such detailed "follow-up of the follow-up" is offered although indirectly some relevant data are reported in one of the chapters of the present volume. Instead, the reader is treated to a series of essays and mostly descriptive reports concerning the vicissitudes of the temperament schema with different populations and in a variety of settings.

Of the 15 chapters into which the book is divided, the first three are of an introductory nature; they deal with the "historical background", "theoretical and operational framework", and with a description of the temperament categories as well as some qualitative and quantitative patterns. In all, 23 pages are devoted to these chapters. The next seven chapters (100 pages) are concerned with the relationship between temperament and behavior disorders, developmental deviations, parent-child interaction and other interpersonal relations, school functioning, and health care practices. These chapters report some quantitative research data and qualitative clinical observations and speculations based on the authors' experience and that communicated by other workers. Based primarily on the qualitative analysis, the authors have identified three types of children — the Easy Child, the Difficult Child and the Slow-to-Warm-Up Child. In the chapters just mentioned, the influence of the child's temperamental make-up upon the reactions and responses he or she evoke in parents, siblings, teachers and peers is discussed in considerable detail. The authors, however, are cognizant that the temperamental characteristics interact, are modified by, and influence, "motivations and abilities" which

are also a part of human complexity. Temperament is seen as playing a part in the development and evaluation of mental disorder and to some extent in mental retardation, brain damage and physical handicap.

An attempt to deal with broader issues such as the "origins of temperament", its consistency over time, its effects upon the "older child and adult" and the practical and theoretical aspects of the concept of temperament, is made in the last five chapters that constitute the second half of the book. Some support for the genetic basis of temperament (via twin studies) is given; consistency varies, and the more time passes between evaluations, the lower the correlation between temperamental ratings; rating temperament in adults is very much in the experimental stage; and the need to consider temperament in child care and treatment is highly recommended. It is rather puzzling why the authors feel that the "global concept of 'personality' is untenable" and why they disparagingly write of the "mystique of personality". There is no reason why the concept of personality cannot accommodate the notion of temperament. As a matter of fact, most definitions of personality do; and include the "range and variety of behavioral repertoire" of the person. Generally, in their zeal to stress their constitutional orientation, the authors frequently make some injudicious comments about psychodynamic theory and perspective.

In sum, this is a work in "progress". There are many references to unpublished papers, to papers in "preparation" and to uncompleted research. Although the impression is that the book was somewhat hastily put together and has a more impressionistic and speculative quality about it than the previous volumes of which the late Dr. Birch was coauthor. This "interim" report can serve well the clinician and the researcher concerned with developmental issues.

## **P.A. News & Notes**

### **ANNOUNCEMENTS**

**Explorations in Personality 78 — An Anniversary Conference**, will be held on November 17-18, 1978, at Michigan State University, Kellogg Center, East Lansing. Speakers will include Jack Block, Norman S. Endler, Norman Garmezy, Daniel J. Levinson, David C. McClelland, Lois B. Murphy, and Robert W. White. Write: Marc Van Wormer, Continuing Education Service, Michigan State University, East Lansing, Michigan 48824.

**Second Annual Conference on Psychodiagnostic Techniques**, will be held on September 23-24, 1978, at Montclair State College, New Jersey. This year's title is *The Psychodiagnostic Assessment of Children*. The conference will consist of lectures and workshops. Write: John Seymour, Ph.D., Department of Psychology, Montclair State College, Upper Montclair, N.J. 07043.

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**Write to Book Review Editor: Dr. Max R. Reed, 6201 S.W. Capitol Highway, Portland, Oregon 97201.**

Jeanne Achterberg, G. Frank Lawlis. *Imagery of Cancer*. Champaign: Institute for Personality and Ability Testing, 1978. 190 pages, \$9.75.

Richard I. Arends and Jane H. Arends. *Systems Change Strategies in Educational Settings*. New York: Human Sciences Press, 1977. 120 pages, \$9.95.

David P. Ausubel and Daniel Kirk. *Ego Psychology and Mental Disorder*. New York: Grune and Stratton, 1977. \$19.50.

Michael J. Austin. *Professionals and Paraprofessionals*. New York: Human Sciences Press, 1978. 295 pages, \$16.95.

D. Bannister (Editor). *New Perspectives in Personal Construct Theory*. London: Academic, 1977. 355 pages, \$21.75.

Janet Beavin Bavelas. *Personality: Current Theory and Research*. Monterey: Wadsworth, 1978. 302 pages, \$10.95.

Lawrence A. Bennett, Thomas S. Rosenbaum, Wayne R. McCullough. *Counseling in Correctional Environment*. New York: Human Sciences Press, 1978. 94 pages.

John Bolby. *Attachment*. New York: Basic Books, 1977. 428 pages, \$4.95.

John Bowlby. *Separation: Anxiety and Anger*. New York: Basic Books, 1977. 456 pages, \$4.95.

Dudley J. Chapman. *The Sexual Equation*. New York: Philosophical Library, 1977. 434 pages, \$16.95.

Gerard Chrzanowski. *Interpersonal Approach to Psychoanalysis*. New York: Halsted, 1977. 242 pages, \$16.95.

Committee on Adolescence. *Power and Authority in Adolescence: The Origins and Resolutions of Intergenerational Conflict*. New York: Group for the Advancement of Psychiatry, 1978. 275 pages, \$6.50 (paperback).

William D. Dannenmaier. *Mental Health: An Overview*. Chicago: Nelson-Hall, 1978. 234 pages, \$13.95.

Valerian J. Derlega and Louis H. Janda. *Personal Adjustment: The Psychology of Everyday Life*. Morristown: General Learning Press, 1978. 629 pages, \$12.95.

David J. Drum, J. Eugene Knott. *Structured Groups for Facilitating Development: Acquiring Life Skills, Resolving Life Themes and Making Life Transactions*. New York:

Human Sciences Press, 1977. 284 pages, \$11.95.

Daniel Duckman. *Negotiations — Social Psychological Perspectives*. Beverly Hills: Sage, 1977. 416 pages, \$25.00.

Thomas R. Faschingbauer and Charles S. Newmark. *Short Forms of the MMPI*. Lexington: D.C. Heath, 1978. 188 pages, \$15.00.

John E. Gedo and Arnold Goldberg. *Model of the Mind, a Psychoanalytic Theory*. Chicago: The University of Chicago Press, 1976. 220 pages, \$4.45 paper.

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Alan R. Gruber. *Children in Foster Care—Destitute, Neglected, Betrayed*. New York: Human Sciences Press, 1977. 176 pages, \$11.95.

R. D. Hare, D. Schalling. *Psychopathic Behaviour: Approaches to Research*. New York: John Wiley, 1978. 396 pages, \$32.00.

Douglas H. Heath. *Maturity and Competence, A Transcultural View*. New York: Gardner, 1977. 287 pages, price unknown.

Hubert J. M. Hermans. *Value Areas and Their Development, Theory and Method of Self-Confrontation*. Amsterdam: Swets and Zeitlinger B.V., 1976. 294 pages, Dutch Guilders 88.40.

Lenore W. Harmon, Janice M. Birk, Laurine E. Fitzgerald, Mary Faith Tanney (Eds.). *Counseling Women*. Belmont: Wadsworth, 1978. 315 pages, \$6.95.

Robert G. Harper, Arthur N. Wiens, Joseph D. Matarazzo (Eds.). *Nonverbal Communication: The State of the Art*. New York: John Wiley, 1978. 355 pages, \$19.95.

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Brian G. Jones, Charles Dayton, H. B. Gelatt. *New Methods for Delivering Human Services*. New York: Human Sciences Press, 1977. 140 pages, \$10.95.

- Mark Kammerman. *Sensory Isolation and Personality Change*. Springfield: Charles C. Thomas, 1977. 310 pages, \$12.75.
- Suzanne J. Kessler, Wendy McKenna. *Gender: An Ethnomethodological Approach*. New York: John Wiley, 1978. 233 pages, \$16.95.
- Donald C. Klein. *Psychology of the Planned Community: The New Town Experience*. Community Psychology Series, Volume 4, American Psychological Association, Division 27. New York: Human Sciences Press, 1978. 182 pages, \$11.95.
- Eric Klinger. *Meaning and Void*. Minneapolis: University of Minneapolis Press, 1977. 412 pages, \$16.50.
- Jon E. Krapfl and Ernest A. Vargas (Editors). *Behaviorism and Ethics*. Kalamazoo: Behaviordelia, 1977. 240 pages, \$12.95.
- Jackie Lamb and Wesley Lamb. *Parent Education and Elementary Counseling*. New York: Human Sciences Press, 1977. 143 pages, \$9.95.
- Ralph LaRossa. *Conflict and Power in Marriage—Expecting the First Child*. Beverly Hills: Sage, 1977. 169 pages, \$14.00 hardcover; \$6.95 soft.
- Harvey London, John E. Exner, Jr. (Eds.). *Dimensions of Personality*. New York: John Wiley, 1978. 620 pages, \$23.95.
- Richard Malott, Mary Tillema, and Sigrid Glenn. *Behavior Analysis and Behavior Modifications: An Introduction*. Kalamazoo: Behaviordelia, 1978. 442 pages, \$6.00.
- Alfred J. Marrow. *The Practical Theorist, The Life and Work of Kurt Lewin*. New York: Teachers College Press, Columbia University, 1977. 290 pages, price unknown.
- Donald Meichenbaum. *Cognitive-Behavior Modification. An Integrative Approach*. New York: Plenum, 1977. 305 pages, price unknown.
- George A. Miller (Editor). *Communication, Language, and Meaning... Psychological Perspectives*. New York: Basic Books, 1977. 304 pages, \$4.95 (paper).
- John B. Miner. *Motivation to Manage, A Ten Year Update on the "Studies in Management Education" Research*. Atlanta: 1977. 248 pages, price unknown.
- Monique V. G. Morval. *Le T.A.T. et Les Fonctions Du Moi Propédeutique A L'Usage Du Psychologue Clinicien*. Montreal: Les Presses De L'Université De Montréal, 1977. 168 pages, \$7.50.
- Ann F. Neel. *Theories in Psychology. A Handbook*. New York: Halsted, 1977. 699 pages, \$24.50 cloth, \$9.95 paper.
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- Road Nygard. *Personality, Situation, and Persistence*. New York: Columbia University Press, 1977. 282 pages, \$20.00.
- Dan Olweus. *Aggression in the Schools: Bullies and Whipping Boys*. Washington, D.C.: Hemisphere, 1978. 218 pages, \$14.95.
- Evelyn K. Oremland, Jerome D. Oremland (Eds.). *The Sexual and Gender Development of Young Children: The Role of the Educator*. Cambridge: Ballinger, 1977. 336 pages, \$20.00.
- Louis Ormont, Herbert Stean. *The Practice of Conjoint Therapy*. New York: Human Sciences Press, 1978. 231 pages.
- J. Blair Pace. *Pain, A Personal Experience*. Chicago: Nelson-Hall, 1976. 163 pages, \$7.95.
- Rolland S. Parker. *Effective Decisions & Emotional Fulfillment, A Guide to Making the Right Choices for Success in Life*. Chicago: Nelson-Hall, 1977. 290 pages, \$11.95.
- Rolland S. Parker. *Emotional Common Sense*. New York: Barnes and Nobel Books, 1973. 219 pages, \$2.95 softcover.
- Rolland S. Parker. *Psychology and Counseling Careers*. New York: Rolland S. Parker, 66 pages, price unknown.
- Beeman Phillips. *School Stress and Anxiety*. New York: Human Sciences Press, 1978. 165 pages, \$9.95.
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- O. Ruth Russell. *Freedom to Die. Moral and Legal Aspects of Euthanasia*. New York: Human Sciences Press. Revised Edition. 1977. 413 pages, \$14.95, cloth.
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## Oscar Krisen Buros 1905-1978

For 40 years psychologists wanting accurate and reliable information about psychological tests and assessment methods have turned to *The Mental Measurements Yearbook* series. The first volume in this series was published in 1938 and the seventh, and most recent, in 1972. Just now *The Eighth Mental Measurements Yearbook* is in press and expected to appear in late 1978. Oscar Krisen Buros, the individual responsible for this invaluable series of Yearbooks, quite justifiably occupies a high place in the esteem of psychologists interested in personality assessment and psychological measurement in general. These psychologists, and in fact all readers of the *Journal of Personality Assessment*, will be saddened to know that Dr. Buros died in New Brunswick, New Jersey, on March 1, 1978. In recognition of his contributions to the field and in tribute to his memory, the Board of Directors of the Society for Personality Assessment decreed that an obituary should be published in the *Journal*.

Oscar Krisen Buros was born June 14, 1905 in Lake Nebagamon, Wisconsin. He attended college at the State Normal School in Superior, Wisconsin, in 1922-24, and then went on to graduate with a BS degree from the University of Minnesota in 1925. He took an MA degree in psychology at Teachers College, Columbia University in 1928 and did additional graduate work there in 1928-29 and 1951-53, at New York University in 1927-28, and at the University of Michigan in 1953. On December 21, 1925 he married Luella Gubrud, who later shared with him the editorial responsibilities for the yearbook series. In 1975, they celebrated their Golden Wedding anniversary.

After several years as a high school teacher of history and school principal, Buros took his first appointment at Rutgers University in 1932, where he became associate professor in 1939 and professor in 1950. During World War II he was

in charge of testing for the US Army's specialized training program, and later was an adviser on the assessment of leadership at West Point. His studies at West Point were quoted in 1951 by then Representative from Massachusetts John F. Kennedy.

Buros retired from Rutgers in 1965, but kept on as active director of The Institute of Mental Measurements until his death. Professional honors and awards of many kinds were received by him: a citation from the American Educational Research Association and American Psychological Association for contributions to measurement, in 1953; senior Fulbright lecturer in statistics, Makerere University College, Uganda, 1956-57; Phi Delta Kappa research award, 1965; adviser, under Ford Foundation sponsorship, on educational testing in several African countries, 1965-67; honorary Doctor of Science degree, Upsala College, 1973; and the Educational Testing Service Award for Distinguished Service to Measurement, 1973. He was a Fellow of the American Statistical Association and the American Psychological Association, and a member of many other significant scientific and research societies.

In a memoir published in 1968 on establishing the Yearbook series, Buros stated that although he was influenced by psychologists such as Giles M. Ruch (1925, 1933) and Truman Lee Kelley (1927), it was really the book *Your Money's Worth* by Stuart Chase and F. J. Schlink (1927) and the establishment of Consumer's Research in that same year that prompted him to think seriously about initiating a sort of Bureau of Standards for testing. In 1934 he agreed to prepare an annual review of standardized tests, and in that year issued his first bibliography of educational, psychological, and personality tests. To provide critical evaluations of these tests, Buros first contemplated starting a test reviewing journal but then decided it would be

more feasible to add a test reviewing section to the next annual bibliography. He also decided to adopt the name *The Mental Measurements Yearbook*. During the preparation for the 1938 edition of this Yearbook, the American Council on Education learned of his work and offered to consider a request for a grant-in-aid. Something is indicated about the nature of the times, inflation, and the current status of psychology by the fact that the grant itself came to \$350, to be used for "extra clerical help." Money continued to be a problem, and in 1940, when secretarial assistance from the federal Works Progress Administration was terminated, work shifted to Buros' home, and his wife became typist, secretary, and all-round assistant. Forty-eight thousand penny postcards announcing the publication of the 1940 Yearbook were addressed by hand, by members of the family. In 1941, the publishing organization was named The Gryphon Press, using the spelling of gryphon as it appears in *Alice's Adventures in Wonderland*. The rest of this charming memoir (Buros, 1968) tells of the ups and downs of the Yearbooks, the impetus given to MMY distribution by the post-Sputnik interest in intellectual and scientific talent, and the editor's constant efforts to improve the quality of tests and the sophistication with

which they are used.

As mentioned above, the *Eighth Mental Measurements Yearbook* is scheduled to appear in late 1978. Will there be a ninth Yearbook? As of the date this obituary was prepared, no plans have been agreed upon for a continuation of the series. It is doubtful that another psychologist will magically appear with Buros' combination of energy, initiative, critical judgment, and managerial ability, but it ought to be possible for a large association or foundation to find a way to carry on with this work. The series is needed by researchers and clinicians everywhere, and its preservation would honor the memory of its founder.

#### References

- Buros, O. K. The story behind the Mental Measurements Yearbooks. *Measurement and Evaluation in Guidance*, 1968, 1, 86-95.
- Chase, S., & Schlink, F. J. *Your money's worth: a study in the waste of the consumer's dollar*. New York: Macmillan, 1927.
- Kelley, T. L. *Interpretation of educational measurements*. Yonkers, N. Y.: World Book Co., 1927.
- Ruch, G. M. Minimum essentials in reporting data on standard tests. *Journal of Educational Research*, 1925, 12, 349-358.
- Ruch, G. M. Recent developments in statistical procedures. *Review of Educational Research*, 1933, 3, 33-40.



## Teaching Psychological Assessment: Training Issues and Teaching Approaches

SANDRA W. RUSS

Case Western Reserve University

*Summary:* Clinical psychology graduate programs need to pay attention to important issues involved in teaching psychological assessment, if graduate students are to be adequately prepared. Recent studies have suggested a gap between academic training in psychological assessment and internship expectations. Graduate students are not as well prepared as many internship settings would like. In addition to learning the fundamentals, students need help in dealing with issues of categorizing individuals, using tests in helpful ways, taking responsibility for decision-making, and developing a balance between critical evaluation of tests and appreciation of their usefulness. Teaching approaches for dealing with these issues are discussed. The importance of academic and clinical agencies working together is stressed. Goals for graduate training in assessment are suggested.

A number of recent studies have reported that the staff of internship agencies are often dissatisfied with the academic preparation of clinical graduate students in the area of psychological assessment (Garfield & Kurtz, 1973; Levitt, 1973; Shemberg & Keeley, 1974). Shemberg & Keeley (1974) found that 59% of internship agencies reported inadequate preparation of interns in diagnostic assessment, and that the level of competency had declined over the previous three years, especially in projective techniques. Garfield & Kurtz (1973) reported similar findings, with 54% of internship directors considering university training in diagnostics inadequate. Students were perceived as having an overly critical attitude toward testing. The staff in the agency hypothesized that this attitude evolved partly because of the disparaging attitude of university faculty toward testing and insufficient student experience in practicum settings. While in some academic placements this may be the case, the issues involved are far more complex than overly critical faculty members or lack of experience. It is important that these issues be addressed before the gap between academic training and internship expectations widens.

The question of whether assessment should be taught at all raises many issues about the direction of clinical psychology which are beyond the scope of this paper. The fact is that graduate programs are

continuing to teach assessment, with approximately one-fifth of graduate education devoted to diagnostic assessment (Weiner, 1972). A major question is how to use this time to adequately prepare clinical students? A second question is what is meant by "adequate preparation," what are realistic goals?

### *Issues in Introductory Seminars*

A number of important issues arise during the teaching of introductory seminars in psychological assessment. From my discussions with graduate students over the last several years and my own observations while teaching assessment, some major issues have come to the fore. These issues must be attended to since a student's introduction to the area is crucial in the development of lasting attitudes toward assessment. How these issues are worked with by students, faculty, and supervisors largely determine the attitude toward testing that the student brings to the internship setting. Current issues and problem areas for students are: categorizing individuals through assessment; using tests in a helpful way; taking responsibility for decision-making; and developing a balance between critical evaluation of tests and appreciation of their usefulness.

### *Categorizing Individuals*

Many students are entering graduate programs with a negative view of assess-

ment. Their attitudes have been formed by unfavorable opinions about testing in the media and by the current publicity about the misuse of tests. Rader and Schill (1973) discuss the resentment of students about having to learn assessment techniques in view of some of the negative research findings. Often, students have worked in settings where tests have been misused, and, therefore, have been discouraged about assessment.

The issue takes a more philosophical bent when humanistic concerns arise. Evaluating another individual or assessing aspects of their functioning in any way is "pigeon-holing" the individual and is an immoral act. Rather, the individual should be experienced and related to intuitively. Strupp (1976) deals with this issue in his article, *Clinical psychology, irrationalism, and the erosion of excellence*. He makes the point that the notion that assessment is harmful to individuals is "one of the great pseudo-issues besetting our field" (p. 564). He pointed out that it is humanly impossible not to think and evaluate one's experience at some level. Thinking, evaluating, and reflecting are continual processes. More important, assessing the situation helps one make "good" decisions about intervention. Psychotherapy is a continual process of hypothesis formation about what is occurring and decision-making about how to intervene in light of these hypotheses (Koch, Note 1). This is similar to the process of forming hypotheses and making decisions in diagnostic assessment. This brings us to the second major issue which is of concern to students, can tests be used to help individuals?

### *Meaningful Use of Tests*

Students must experience for themselves that tests and diagnostic assessment can be used to make decisions that are helpful to people's lives. Though the immediate purpose of testing is to understand an individual (Weiner, 1972), the ultimate purpose of testing is to make optimal decisions about that individual (Cole & Magnussen, 1966). Ethically, tests should only be used if they contribute to the development of the individual (Deutsch, Fishman, Kogan, North, &

Whiteman, 1964). Even at the level of large scale testing, the current trend is toward tests benefiting the test-takers rather than employers (Tyler, 1973).

Students must have direct experience with the benefits of assessment. If a student is testing a child, he/she must learn how recommendations can evolve from the testing which can be used to enhance the development of that child. One of the worst experiences a beginning student can have is that of testing and writing a report, only to have that report and its recommendations be ignored. Paradoxically, this is more likely to happen with beginning students since clinicians are, understandably, less likely to value their conclusions.

Students also need to develop a wide repertoire of intervention techniques to recommend. They must be exposed to a number of treatment approaches and guidelines about when to use what. Considering the lack of conclusive research in this area, the large storehouse of clinical knowledge and expertise must be relied upon to set the guidelines, while integrating the relevant research. Since students will be making treatment recommendations for several years without having had much therapy experience, it is crucial that different intervention approaches be clearly conceptualized.

### *Taking Responsibility*

When meaningful decisions can be made, students often have difficulty taking that responsibility. For example, finding a serious thought disorder in a young child and reporting this to parents for the first time can be a very threatening experience. For some students, this may be the factor behind their antipathy to assessment in general. It is safer to "go with the flow" than to be aware of more concrete decisions which may have lasting effects upon an individual.

Also, the students lack the experience necessary to have confidence in their own clinical judgments. This is especially true when using projective tests as opposed to objective methods of assessment.

### *Appreciating Strengths and Weaknesses of Methods of Assessment*

Students need to strike a balance be-

tween critically evaluating tests and appreciating their usefulness. Initial tendencies are to go in one direction or the other. An objective, analytical approach needs to be developed.

### *Teaching Approaches*

How do we come to grips with these issues? An ideal training model is one which includes a seminar in assessment concurrent with field experience in a practicum setting. This is the model Shakow (1976) recently called for and one which is frequently used in academic programs. This fosters integration between theory and practice. This is especially true if there is a "true fusion" (p. 557) between the university and clinical setting, with a close working relationship.

#### *The Seminar*

One focus of the introductory seminar should be to teach the skills necessary to evaluate tests critically in areas of reliability, validity, and appropriate use of the test. Students should learn to use the best of what is available for a specific purpose. Knowing strengths and weaknesses of tests can point to research needs and engender research ideas in areas of test development and in models of decision-making.

A second focus of the seminar should be on the process of hypothesis formation and integration of assessment data. This is a step-by-step procedure which needs to be illustrated frequently by the instructor and practiced by the students. Holt's (1958, 1970) approach of combining the methods of statistical and clinical prediction is one which will give the students a broad and flexible base.

An open forum in which students read about, debate, and discuss the issues of categorization, use of tests, humanism, etc. is important for a beginning resolution of these issues to occur. It is important for faculty to be open about their own struggles with these issues and their current resolution. I say current because these issues are continually present. Finding the appropriate balance between didactic presentation and open discussion is important and difficult.

Diagnostic formulations must be related to treatment decisions. As previously

discussed, a clear presentation of treatment approaches and guidelines is important. When possible, viewing the assessment material from different theoretical frameworks helps to broaden the students' repertoire of conceptualizations.

Faculty who teach assessment should have used assessment techniques and found them to be effective in helping others. Case presentations by faculty, psychologists in the community, and students is also helpful; however, it is crucial that students experience effective testing for themselves in practicum settings.

#### *Practicum Settings*

The practicum settings should be ones in which testing is used in a meaningful way, treatment decisions are partially based on the tests, and assessment is, in general, respected. This is crucial in giving the student the experience of making evaluations from assessment data which result in effective decisions. Opportunities to follow-up individuals who are tested is important. Also helpful are opportunities to sit down with a patient's therapist and discuss how the therapist uses the test results in conducting the therapy.

Intensive supervision is very important in the practicum setting. Aside from the obvious benefits of teaching hypothesis formation, interpretation, and integration of information, supervision also enables the student to deal with personal issues such as taking responsibility for decisions or heightened internal awareness. The support of the supervisor in making the recommendations as well as in forming an objective appraisal of the accuracy of the conclusions from the testing, is helpful. Good supervision is a growth promoting experience. Supervision also gives exposure to a number of different role models and orientations which are important in the development of a student's own unique approach.

In stressing the importance of the practicum settings, a major problem is highlighted. Supervising beginning students well is very time consuming, particularly when the supervisor is clinically responsible for the assessment. Service demands



and training demands continue to conflict in clinical agencies. It is often more efficient for psychologists in clinical settings to test the clients themselves rather than to supervise a beginning student. What training time does exist is spent in internship training. Priorities are not placed on training at the early graduate level, yet this is the time when attitudes towards assessment are developing and good practicum placements are needed.

Psychologists in academic settings and clinical settings alike must come together to find solutions to this problem. The field of psychology must find ways of motivating the staff in clinical settings to become involved in graduate training. The "true fusion" Shakow refers to between academic and clinical settings often exists on paper, but not in practice. Psychologists in clinical settings should be involved in program development at the graduate level. A breakdown of the traditional barriers would create a more open system with exciting implications for graduate training. Unfortunately, the necessary incentive for beginning worthwhile programs is usually financial. Thus, we come to the necessity for training grants to reimburse the clinic or agency for time involved in training graduate students at the pre-internship level.

#### *Goals of Graduate Training in Assessment*

What is "adequate preparation" in assessment? Some proposed realistic goals upon completion of academic training would be that students could:

1. Decide when testing is necessary.
2. Competently put together an assessment battery which is relevant to the purpose of the testing.
3. Competently administer, score, and interpret standard tests used in clinical settings.
4. Make appropriate basic recommendations (not necessarily refined), using a variety of intervention approaches.
5. Write clear, concise reports for various purposes.
6. Give feedback to client, family, and school in an effective manner.
7. Know how to evaluate test construction (reliability, standardization, validity).

8. Be aware of ethical issues in assessment.

9. Be able to utilize some theoretical framework in test interpretation (learning theory, dynamic, developmental, etc.). A high level of theoretical integration of tests results should not be expected until the internship year.

These goals could also be criteria for assessing competence in the area of psychological assessment, for licensing purposes.

An overall goal would be to develop a foundation in assessment which can be built upon and refined in the future. The student should have a sophisticated understanding of assessment, know where to search in the literature for specific questions, be able to assess research in the area, and develop research ideas about test validation and decision-making. My own bias is that the best way to develop this foundation is to teach a few tests in depth rather than many tests broadly. With a few tests, students can learn basic principles of test evaluation, hypothesis foundation and confirmation, and the possibility for error in interpretation. Other methods of assessment can then be evaluated and learned in the future as the student's repertoire of assessment techniques is broadened.

Finally, a course in psychological assessment should develop the "clinical attitude" which identifies clinical psychology as a profession. The clinical attitude is defined by Korchin (1976) as a way of thinking that distinguishes clinical psychologists from their colleagues. The clinical psychologist is interested in understanding the individual in a systematic way. Shakow (1976) also uses this concept when describing motivating forces in choosing psychology as a profession as striving for "other-understanding through self-understanding by way of science." (p. 554). Knowledge about individuals is integrated with psychological theory and then regarded with the critical, questioning attitude of the scientist. This critical attitude also identifies the clinical psychologist. Learning psychological assessment and testing is one of the best ways of developing these attitudes.

If academic and clinical settings work



closely together for graduate training in assessment, strong models of psychologists using testing are provided, and open discussions of the issues using the literature as an anchor occurs, then graduate students should be better prepared to enter internship settings, although retaining a healthy skepticism. A student may still decide not to use current assessment techniques, but the decision will be an intelligent one.

#### Reference Note

1. Koch, E. Case discussant, Case Western Reserve University, April, 1977.

#### References

- Cole, J. K., & Magnussen, M. G. Where the action is. *Journal of Consulting Psychology*, 1966, 30, 539-543.
- Deutsch, M., Fishman, J., Kogan, L., North, R., & Whiteman, M. Guidelines for testing minority group children. *Journal of Social Issues*, 1964, 20, (2), 129-145.
- Garfield, S. L., & Kurtz, R. M. Attitudes toward testing: A survey of directors of internship training. *Journal of Consulting and Clinical Psychology*, 1973, 40, 350-355.
- Alt, R. Clinical and statistical prediction: A reformulation and some new data. *Journal of Abnormal and Social Psychology*, 1958, 56, 1-12.
- Alt, R. Yet another look at clinical and statistical prediction: Or, is clinical psychology worthwhile? *American Psychologist*, 1970, 25, 337-349.
- Korchin, S. *Modern clinical psychology*. New York: Basic Books, 1976.
- Levitt, E. E. Internship versus campus: 1964 and 1971. *Professional Psychology*, 1973, 4, 129-132.
- Rader, G., & Schill, T. Blind test interpretation to overcome student resistance to projective techniques courses. *Journal of Personality Assessment*, 1973, 37, 213-216.
- Shakow, D. What is clinical psychology. *American Psychologist*, 1976, 31, 553-560.
- Shemberg, K. M., & Keeley, S. M. Training practices and satisfaction with preinternship preparation. *Professional Psychology*, 1974, 5, 98-105.
- Strupp, H. Clinical psychology, irrationalism, and the erosion of excellence. *American Psychologist*, 1976, 31, 561-571.
- Tyler, L. E. Design for a hopeful psychology. *American Psychologist*, 1973, 28, 1021-1029.
- Weiner, I. B. Does psychodiagnosis have a future? *Journal of Personality Assessment*, 1972, 36, 534-546.

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## Use of the Psychological Test Report in the Course of Psychotherapy

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*Summary:* Most studies predicting psychotherapy outcome involve the use of a particular test or group of tests. Very little is found concerning the use or usefulness of what is more generally available, the psychological test report. This article discusses the psychological test report not only as a useful instrument to predict outcome of psychotherapy, but also as an objective measure to assist in understanding the progress of psychotherapy and to alert the therapist of potentially very critical and delicate situations. Case examples are included illustrating the use of the psychological test report during the course of psychotherapy.

The problem which faces every psychotherapist is how therapeutically to maximize the time spent with the patient and how to avoid being trapped in the transference paradigms with which the patient struggles. A good supervisor can help both situations but it is possible to use something additional to enable one to regain the perspective necessary to assess accurately what is occurring within the therapy situation.

Individual tests have been found to be very predictive of therapeutic outcome (Aronow & Reznikoff, 1971; Frank, 1967; Shostrom, 1974; Vandembloc & Karon, 1971; Walker, 1974). Few psychologists, however, use just one or two tests in the inference process prior to writing the psychological test report. Perhaps what inhibits the study of predictions and inferences made from psychological test reports is that so much depends not only upon the capability of the psychologist to make inferences but also upon his or her ability to communicate findings.

That tests can be useful for predictive and descriptive purposes provided they are well written (Appelbaum, 1970, 1972) is generally accepted, but their usefulness need not stop there. For example, a study by Peterson compared the assessments made by both the testers and the therapists of selected patients. He found that as the treatment progressed, the assessments made by the patient's therapist, began at each succeeding measuring point to more closely parallel the assessments originally made by the testers until

at the end they had reached the highest possible correlation (Peterson, 1969). His conclusion was that the assessments made by the testers could indeed be helpful to the therapist.

It is possible to use a test report as an "alter ego," much like an auxiliary supervisor to warn of countertransference pitfalls, to guide interventions, and to develop overall strategy (Appelbaum, 1977). To illustrate the use of the psychological test report in this capacity, three psychotherapy case studies are reported in which the psychological test report, though initially read, was at first neglected as an ongoing help but then utilized more consistently for the remainder of the treatment. I had tested two of the individuals (Cases 1 and 2) as part of regular outpatient evaluations and had written the reports. At the time there was no indication I would be treating these patients later. Because I had done the testing, I felt I was well acquainted with the material and would remember it sufficiently to guide my work. From discussion with colleagues, something quite similar appears to be the general pattern. Case material, if read at all, is read prior to beginning treatment, and seldom if ever referred to again. The rationale frequently given is that it will be remembered. Others feel having the material beforehand might contaminate the treatment.

### CASE #1

Sister A., a member of a religious community, was referred for an evaluation because of increasing difficulties in her

living situation. She had been accused, according to reports she gave the interviewing psychiatrist, of being the cause of much internal discord within the community.

After an outpatient evaluation including psychological testing, the patient was referred for psychotherapy.

The test report contained the following caution:

Because the patient appears so well-composed and apparently agreeable it may be easy to miss how frightened she is, and how very anxious and uncomfortable she is behind her apparent serene composure. She does show some potential to think psychologically though she is too troubled and wary of the as yet unintegrated, hitherto warded off side of herself. It will be important for her therapist to proceed sensitively and slowly in helping her to explore her highly charged areas of conflict, for it would be fairly easy to frighten her out of therapy or at least unnecessarily to increase her defensiveness.

There was also considerable material from the testing and from her history indicating the potential of this patient to get herself into the "victim" position. This was the area that caused the most difficulty in the course of therapy. This patient had a way of arousing considerable negative countertransference feelings. She would tantalize with comments such as "there's really something I would like to talk about but just can't," but would resist all efforts to explore the issue in question. Similar comments would be repeated throughout the hour punctuated with long periods of silence. This would go on for numerous sessions. Attempts to understand this maneuver or facilitate her talking were experienced as attacks and criticism; silence was seen as "not caring."

The patient had other ways of being provocative. She would begin crying just at the end of the hour and be in no state or condition to leave, necessitating a lengthening of the hour. Often she would report that she had told so and so what I had said on a particular topic and state the other person's hostile retort. These were generally misquotes and/or exaggerations of my comments or the other person's response. She had difficulty becoming

aware of her own hostility in these references. She could be infuriating in her always obliging, subservient manner. She was so skilled in her maneuvers that it was frequently very difficult to detect what exactly made one feel so irritated. Furthermore, she seemed so well-organized that it appeared, contrary to what the tests had indicated, that she could handle a direct exploration of her behavior. But this only frightened her. She felt attacked and became more resistant, as the test report said she would. The part of the test report that spoke to the need to proceed sensitively and slowly — for it would be fairly easy to frighten her out of therapy or at least unnecessarily to increase her defensiveness — was easily forgotten under the impact of the feelings she aroused.

I began to feel so blocked and at such an impasse that I considered referring her to another therapist. It was easy to understand why she had been asked to leave a number of her community mission homes and was on the verge of being asked to leave her present home.

Rereading that psychological test report helped me to regain my objectivity. It alerted me that such a maneuver on my part would be a repetition of her past, and it helped me understand and resolve my negative countertransference. It reminded me that underneath the provocative behavior was not so much a stubborn, unwilling patient, but a very anxious, frightened woman struggling to control the disquieting thoughts and fantasies that invaded her consciousness.

Because she always appeared so much in control, it was easy to forget the frightened, anxious side of her so well masked by perfect composure. It was also easy to slip into the role of the all-bad authority figure for one could easily feel righteous indignation with her provocative-ness and could empathize with her religious superiors who did not know what to do with her.

Utilizing the psychological test material, not only in the early stages of treatment but well into the treatment process, enabled me not only to regain objectivity but also to alter the course of psychotherapy so that she was able to avoid be-



coming again a victim of rejection. She gained considerable insight into her manner of provoking others to reject her and she was able to complete a two and one-half year treatment successfully.

Post treatment follow-up at three years indicated that the changes effected in the course of treatment were well-integrated. Her verbal intelligence which tested originally in the Bright Normal range showed a gain of almost 20 points, placing her well within the Very Superior range and indicating the lifting of many of the repressive barriers blocking her true potential. Her self-report, which is corroborated by those who know her, supports her improved functioning. Whereas formerly community groups did not want her to be part of their membership, she is now most welcome. She has become an outstanding teacher, well-liked by parents and students alike for her ability not only to teach but also to understand her students. She is better able to express anger appropriately and is not afraid to speak her mind. She knows how to set limits and no longer feels taken advantage of. Although she reports she still has ups and downs, she is better able to understand their cause and to deal with them.

The greatest change occurred in her interpersonal relationships. She is much freer, more spontaneous, and brings issues out into the open for discussion. She also has been most helpful in enabling others to seek psychiatric help. Now, almost five years out of treatment, she is becoming a recognized leader in her religious community.

Although this is a report of a successful treatment outcome, treatment itself may have been facilitated and both the patient and I might have been spared much pain and frustration if I had kept the test information more consistently in mind.

## CASE #2

Without the psychological test report, Case #2 might never have begun. This patient, a 20-year-old girl, refused to come to my office for therapy and insisted I go to the hospital section to see her where she was a patient.

The test report stated that during the testing,

The patient seemed to want and demand structure, yet fought against it consistently. But in spite of her threats and complaints, when she was not argued with but presented with a task with the implicit assumption that she would comply, she did.

I therefore consulted with her hospital therapist who approved of my plan to see her in my office. Three calls between the nursing staff and me were involved before she was brought to my office in a wheel chair. The wheel chair was not because she refused to come, even though she had initially insisted to the nursing staff that she was not coming. She was suffering from some possible but undiagnosed neurological difficulty which made it difficult for her to walk. This, however, disappeared at least partially after three weeks of treatment.

The first session dealt extensively with her fear of therapy after having "outwitted and controlled so many therapists for so many years." She frequently, in the course of therapy, referred to the first session and the meaning of security that it had for her. She was frightened by her ability to terrify and intimidate others and yet she knew no other way to get what she felt she needed.

If it had not been for the test report, it might have been easy to miss her core difficulty. The test report stated that

egocentric, the patient needs to be the center of interest and attraction which has a helpless, mainly orally-determined, inappropriately demanding nature. She is given to the use of histrionics, repression, and symptom formation characteristic of the hysterical personality.

And in another part of the test.

egocentric and somewhat narcissistic, she would like to see herself as not needing others. But on a deeper level, she hates the artificiality she feels to be herself. She feels evil and capable of destruction, a part of her which she would like to have taken out of her.

Keeping these issues in mind, it was possible to deal with her resistances to explore these very important points. It was also possible to understand her behavior in a different light from what she tended to present. One of the most important of these issues was her struggle with symptom formation. Having a possibility of real neurological difficulty,



this issue would have been easy to bypass.

The psychological test report was also most helpful in enabling me to understand how she related to others and to convey this information to the nursing staff. At times they saw her as an impossible patient whom we could not treat. They in turn were seen as all bad while I was seen as more helpful. She saw them very much as she saw her mother and only by helping them understand this were we able to work cooperatively in her treatment.

They did not give up on her and we were able to work together cooperatively so that she, too, had a successful treatment. During her After-Care treatment, she completed Montessori Training and within one year of termination of psychotherapy had established her own Montessori Training School and had already been chosen a "Montessori Teacher of the Year." She is now over five years out of treatment and continues to do well. She recently married a young man who has just completed his doctoral work in psychology. They plan to blend his behavioral orientation with her Montessori techniques in working with the mentally retarded. It is interesting to note that prior to establishing her own Montessori School, she was selected out of over two hundred applicants to teach behavioral psychology and Montessori techniques to the staff at a local neurological facility as part of a federally funded program.

### CASE #3

Mrs. K. was an attractive 30-year-old Home Economics Teacher. She had been in therapy for about a year with a psychiatric resident who would soon be graduating. He, therefore, referred her for a diagnostic consultation about the possibility of her continuing in analysis. Psychological testing revealed a much more tenuous hold on reality with strong paranoid trends than was readily apparent. Analysis was not indicated. She, however, had formed a strong attachment to the female consultant and was deeply hurt by not being able to continue in therapy with her. This only came out, however, much later in the treatment with me. Because I was going on vacation, I did not consider it

wise to begin therapy and then immediately interrupt it, so I met with the patient briefly to let her know that I would be her therapist when I returned from vacation.

Therapy began after my vacation. It was difficult to work with this patient because my remarks, be they clarifications, interpretations, or whatever, were experienced as narcissistic insults to her intelligence. The test report shed light on the underlying dynamics and allowed for a redirecting of the psychotherapeutic intervention.

### The report stated:

Several problems make it hard for this woman to accept being helped and to learn from another person. One of her TAT stories deals with an evil man who attacks a good one out of envy. Contemptuous of women, she so envies 'men' (someone with something good to offer) that she needs to destroy the good that could be taken in and used. She will likely vacillate between being envious and attacking the therapist, and projecting her 'badness' onto the therapist and feeling attacked because she has the goodness inside her.

She frequently referred to, but would not elaborate on the humiliation she had experienced in having a man for her therapist in her previous therapy.

The patient felt very embarrassed at letting her feelings show and saw therapy as a humiliating experience.

This patient was constantly looking for the all-good mother who died when the patient was but ten years old, but became terrified when she began to experience me in this role. Separations were particularly difficult, but she denied their importance. Her typical response was, "That's all right. What do you mean that I might have some feelings that you are going away? I'm a mature person and I can understand why you are leaving." This reaction made the issue difficult to explore directly.

### The test report read that

she is quite vulnerable to experiences of longing and yearning for a reunion with 'missing' others. But the sadness is colored by much anger and resentment, which could make for spiteful-vengeful behavior — especially if she experiences the 'lost' person as rejecting her in favor of another.

In spite of these technical difficulties,

the patient made significant changes during the course of therapy. Her relationship with her husband improved markedly; she began to be able to set limits; she became more independent and felt less victimized. We were in the last stages of treatment and had been working on her fear of closeness and her fear of abandonment when I was gone twice within the space of two months. She cried for the first time over any of my absences, and expressed some feelings of regret. This, however, was followed by a depreciation of me as a person and as a therapist for "therapists are not real people, they are only objects," followed by an insistence that she terminate treatment. This termination was averted by working with her around the issue of how she reacts to separations and her fears that she will be left alone and abandoned just when she begins to trust another. But after I was gone a few days about a month later, she could not be diverted from her insistence on termination. Although I did not agree with her reasons for terminating treatment, I supported her right to do so. Her eyes filled with tears as she said good-bye, what she valued most was that I had always treated her with the utmost respect. I stated that if in the future, she ever felt the need to return, I wanted her to know the door was open. The patient pointed out that she had made considerable change in the course of treatment, which was true, and what remained she needed to work out directly with her husband. She thanked me for all I had done to help her and left.

The patient, however, did manage to remain in treatment with me for a period slightly over two years. Although I did not feel she was able to complete treatment, I did feel that the test report was invaluable in guiding a very difficult course of therapy. Whether my absence was the critical issue affecting termination is difficult to assess although I feel it had a deciding factor which would fit with the test material and also her history. She was at a critical point in her treatment where she could no longer blame others for her situation and where she was on the brink of assuming greater responsibility for her life. In order to make the transition, she

needed the support of others in whom she could trust. My leaving was to her an indication that I could not be relied upon when she really needed me.

The treatment itself was clearly encapsulated in one of her TAT stories in which she told of an

older woman becoming angry at a younger one who is ruining her life but won't listen to the wisdom of the older woman. The older woman does not want to hurt the other one but uses her anger to get the younger woman to listen to her. She tries to help the younger woman... without ridicule or domination but could not.

Follow-up after one year indicated that this woman was coping rather well, but was not so happy as she would like to be.

### *Discussion*

Freud's reporting of the case of Dora records the problems one encounters in the course of therapeutic work. Not recognizing or dealing with such transference feelings frequently leads, as in that analysis, to the premature termination of treatment.

Although Freud is said to have discovered transference with the analysis of Dora (Freud, 1905/1955), it would be more accurate to say he rediscovered it. We know that as early as the "Studies in Hysteria," Freud not only knew of transference, but in the fourth chapter of this work, devoted to the psychotherapy of hysteria, showed a very clear understanding of the transference phenomenon and of its repetitive nature (Freud, 1893-1895/1955). Freud's notion of the "repetition compulsion" arose when he observed, in children's play and in traumatic neuroses and dreams, a puzzling tendency to repeat over and over some painful situation (Freud, 1920/1955). The compulsion to repeat a painful situation was seen in the life of the Sister in Case #1 who had already managed to get herself rejected by numerous others and almost succeeded in getting me to continue the pattern.

In essence, Freud defined transference as the process whereby individuals react to one another on the basis of previous experience, anticipations, expectations, and stereotypes. Historically, the confusions and distortions in the patient's

imagery were of prime importance to the therapist in the therapeutic process. In recent years, there has been a renewed interest in the effect of the therapist's counterdistortions on the therapeutic process (Salzman, 1962).

With so many years of practice and of "success," patients are very skillful in creating the very problematic situations that lead to their requesting psychotherapy (see Case #1). Yet they remain unaware of their role in the process. It is the work of the therapist to interrupt the sequence of events that lead to their achieving what they most fear: rejection.

In the course of therapy, however, even highly skilled therapists can slip unawares into the transference paradigms and act like others in the patient's environment instead of maintaining distance and enabling the patient to observe his own behavior. The latter stance is greatly facilitated if one is forewarned of possible transference paradigms. A supervisor can help one to recognize the signs and to avoid slipping into such a role. Where a supervisor may be unavailable, another possible way to gain distance is by re-reading the test report where predictions are made of what might occur and why. This point is not new but one which needs to be repeatedly reemphasized for it is so easy to be caught in the web of our own omnipotence and the unconscious resistance of the patient to change. For example, in Case #1, the provocative behavior that led to the patient being transferred from two other mission houses where she had been assigned was being re-enacted in the therapy. My efforts to enable her to understand "why" she behaved in such a way were stymied. I felt helpless with everything I tried ending in failure. I was frustrated. The patient was successfully projecting onto me her own feelings of helplessness.

My earlier understanding of the dynamics inherent in this transference situation were forgotten. A re-reading of the test report at this time may have helped me to maintain my perspective rather than to be drawn into reacting to her behavior. Instead of attempting to enable her to understand her behavior, it would have been more helpful initially to em-

pathize with her fear, a fear which had many levels and which prevented her from accepting my interpretations. At one level, she was becoming more terrified of the implications of our relationship. Would I reject her as the others? She was fearful that if she allowed herself to be vulnerable, I would overpower her and that she would lose all control and suffer annihilation. Furthermore, her alienating behavior was a way of protecting me from her own devouring destructive feelings toward me. I needed to know, understand, and be aware of these various levels of inference, but more important at this point in her treatment, I needed to be accepting and to allow the patient to grow in trust, strengthening her ego capacities to deal constructively with her behavior. She did not need my interpretation at this point, but she did need my acceptance and understanding.

In Case #2, the test report information, perhaps due to more experience on my part, was more consistently used preventing the repetition of this patient's early childhood experiences. The more important contribution of the test report in this case was its utilization outside of the psychotherapy proper in enabling me to work with her treatment team to prevent a split occurring between them and me. Thus she was not able to recreate two warring factions as she had between her mother and father.

Countertransference feelings were strong in Case #3, but here with a greater utilization of the test report, I was able not only to be more aware of these feelings, but also to utilize them more productively. Understanding her pathology, enabled me to handle her hostile attacks more effectively without acting on feelings of wishing to retaliate. These feelings were instead an indicator of how persecuted and attacked the patient felt by whatever I said. It afforded the opportunity instead to examine why she needed to feel this way and to explore the underlying feelings against which her attack and retaliation responses were a defense. However, in this case, that was not enough. When the patient was at a point where she could no longer maintain her defensive stance, where she was uncon-



fortable with the way she was but fearful of becoming someone different, she had to flee. Understanding her pathology and the struggles in which she was engaged also lessened the narcissistic blow of losing a patient before "in my estimation" treatment was completed. My being gone twice in the space of two months gave her the excuse she needed.

In summary, the understanding which is contained in a well-written test report can be a valuable resource in the treatment of patients. Test reports, however, should not be read and neatly filed away, but used in a somewhat "supervisor" or "alter-ego" role through the entire course of treatment. Although this article deals principally with the usefulness of the test report in this regard, there also can be no adequate substitute for competent supervision and one's own personal analysis. Perhaps the test report becomes an even more valuable tool once one has experienced the other two.

#### References

- Appelbaum, S. Science and persuasion in the psychological test report. *Journal of Consulting and Clinical Psychology*, 1970, 35, 349-355.
- Appelbaum, S. A method of reporting psychological test findings. *Bulletin of the Menninger Clinic*, 1972, 35, 535-545.
- Appelbaum, S. *The anatomy of change*. New York: Plenum, 1977.
- Aronow, E., & Reznikoff, M. Application of projective tests to psychotherapy: A case study. *Journal of Personality Assessment*, 1971, 35, 379-393.
- Frank, G. A review of research with measures of ego strength derived from the MMPI and the Rorschach. *Journal of General Psychology*, 1967, 77, 183-206.
- Freud, S. Beyond the pleasure principle. In *The complete psychological works of Sigmund Freud* (Vol. 18). London: Hogarth, 1955. (Originally published 1920).
- Freud, S. Fragment of an analysis of a case of hysteria. In *The complete psychological works of Sigmund Freud* (Vol. 7). London: Hogarth, 1955. (Originally published 1905).
- Freud, S. The psychotherapy of hysteria. In *The complete psychological works of Sigmund Freud* (Vol. 2). London: Hogarth, 1955. (Originally published 1893-1895).
- Peterson, P. The clinical utility of projective techniques. *Dissertation Abstracts*, 1969, 30, 2913-14b.
- Salzman, L. Countertransference: A therapeutic tool. In J. H. Wasserman (Ed.), *Current psychiatric therapies*. New York: Grune & Stratton, 1962.
- Shostrom, E. The measurement of growth in psychotherapy. *Journal of Personality Assessment*, 1974, 38, 144-148.
- Vandenboc, G., & Karon, B. Pathogenesis: A new therapist personality dimension related to therapeutic effectiveness. *Journal of Personality Assessment*, 1971, 35, 252-260.
- Walker, J. The Word Association Sentence Method as a predictor of psychotherapeutic outcome. *British Journal of Social and Clinical Psychology*, 1974, 77, 13, 219-221.

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## A Reply to Stricker's Criteria for Insurance Reimbursement for Psychological Assessments

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*Summary* Stricker (1978) proposes a set of criteria which has been offered as a guideline to determine third party payments for psychological assessments. While the author views these as generally reasonable for adult assessments, he suggests that a different set of criteria be used for child assessments.

As Stricker (1978) and his committee have indicated, some criteria are necessary to provide reasonable guidelines for third party payments when psychological assessments are requested. I doubt that many clinicians would quarrel with this premise. Nor would I personally take issue with the committee's view that, under ordinary circumstances, six hours of professional time should suffice to complete a focussed psychological assessment. I view this guideline as reasonable in the case of *adult* clients and, probably, most adolescent clients as well. I do see a problem, however, with extending these guidelines to children, particularly preschoolers and younger elementary school aged youngsters.

Assessing children involves the use of different instruments and procedures than is true in the case of adult assessments. For instance, depending upon the referral source, a much more detailed history of the client may be needed than is usually the case with adults. On the average, one also tends to spend more time consulting with physicians on child cases, especially cases of suspected hyperactivity or learning disabilities. But a major difference between child and adult assessments involves contacts with school personnel in child cases. A substantial amount of professional time is consumed in the process of obtaining information from the child's teacher and school psychologist and occasionally school administrators as well. One must also obtain and peruse the child's school record and prior school testing (if any). Under some circumstances, depending upon the usefulness of the information one has received, an observation at the school itself may be needed.

Interpretation of results is also different in the case of children as opposed to adults. In the case of children, interpretations involve the child (separately) and the parents. Typically, feedback to the school is also provided, generally to the teacher and to the school psychologist. Occasionally, one must also share information with the physician as well as any social agencies that may have become involved (i.g., social services; the court system). Moreover, since the interpretive with the parents is basically a report to a third party, and since the parents themselves have not experienced the assessment procedure, I have found that much more time is required to explain and demystify the work that I have done. In terms of time, my experience has been that I can count minimally on two hours of professional time for simple cases; in more complex cases, it is not unusual to spend four to five hours, especially if a number of different professionals are involved.

One also tends to use more procedures in assessing children. Whereas a cognitive battery with adults might include simply an individual intelligence test, the Bender-Gestalt and the Wide Range Achievement Test, the typical child assessment merely begins with these procedures and is often far more extensive. For instance, further educational testing is often needed if the child presents with learning difficulties; this is particularly true if learning disabilities are suspected. And the Vineland is often given to assess social maturity and self-help skills, among other things. Other specialized instruments are also used fairly routinely, depending upon the nature of the presenting complaint.

One also encounters somewhat different problems in testing children than is the case for adults. Most adults, even if moderately disturbed, can tolerate a one to two hour testing session without undue discomfort. In the case of young children, however, breaks are often needed. Sometimes too, children become upset on the course of projective testing and resist continuing for a time the task at hand. My experience is that I cannot accomplish as much in the same amount of time with young children that I can with adults, and that I must make greater allowance for their upsets, shorter attention span, their tendency to fatigue more readily, etc.

In conclusion, while I find that Stricker's (1978) recommendation that pay-

ment for testing be "limited to four hours and the entire assessment process to six hours" (p. 318) is not unreasonable for adult assessments, I see problems with applying these standards to assessments of young children. In the latter instance, I believe that it would be more reasonable to allow at least five to six hours for testing and nine hours for the entire assessment process. I therefore urge the committee to solicit opinions from qualified child diagnosticians to determine whether the committee's guidelines should be applied to child assessment cases.

#### References

- Stricker, G. Personality assessment and insurance reimbursement. *Journal of Personality Assessment*, 1978, 42, 317-318.

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## Personality Correlates of Rorschach Scoring Determinants: Hypotheses Derived from Structural Analysis

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**Summary:** A paradigm was presented whereby the meaning of some major Rorschach scoring determinants could be explicated in terms of a classification system based on Structural Analysis which indicates whether a response is intellectually or emotionally oriented and where it is located on a behavior-fantasy continuum. Implications of this analysis for resolving some interpretive issues and generating behavioral predictions were discussed.

Structural Analysis (SA), a theory of personality derived from projective testing (Wagner, 1971), has been utilized to explicate the nature of a number of psychopathological conditions (Wagner, 1973; Wagner & Heise, 1974; Wagner, 1974; Wagner, 1976a), to indicate how certain projective techniques differentially assess various aspects of the personality (Wagner, 1976b) and to say something about the nature of projection itself (Wagner, 1978). The present paper attempts to further apply SA principles toward the understanding of some major Rorschach scoring determinants. As Piotrowski has noted, "Contrary to a widespread present impression the validity of the Rorschach method does not depend on any theory of personality" (1957, p. iii). It is hoped that a theory which can specify the facets of personality measured by Rorschach scoring categories would not only provide a convenient and efficacious vantage point from which to view the technique but would also help resolve some interpretive controversies which have arisen in the literature and generate some new approaches for comprehending the interactions among Rorschach variables and behavior.

### *What Do the Rorschach Determinants Assess?*

To recapitulate, SA can be represented topologically as a triangle consisting of Behavior (B) at the base with Intellect (I) and Emotion (E) forming the other two sides. Superimposed upon this structure are "layers" of psychological activities arranged along a continuum from overt be-

havior (B) through increasing degrees of subjective experience, conveniently subdivided into the Facade Self (FS) consisting of habitual attitudes and action tendencies readily available for behavior, and the Introspective Self (IS) comprising more covert processes such as reflection, life role formulations and fantasy (see Figure 1). The Rorschach is posited to occupy a central position within the "personality triangle," accounting for its popularity as a broadly based assessment technique (see Figure 2). It does, however, fall short at the extremes (the base and the apex of the triangle) and therefore does not fully impinge upon either behavior or fantasy. In this regard other projective techniques such as the Hand Test or Thematic Apperception Test might be more efficient for measuring, respectively, the behavioral aspects of the FS or the pure fantasy level of the IS.

Figure 2 also depicts the approximate positions of some major Rorschach scoring determinants within the triangle. Note that *M* is arranged along the intellectual vector. It is therefore, by inference, substantially dependent upon language functions and likely to serve as an internal orienting mechanism striving to bring about the accomplishment of subjectively articulated life goals and pursuits via the FS. *FM*, on the other hand, is more emotionally based, characteristically develops earlier than *M*, is apt to be expressed when the individual's intellectual processes are suspended (e.g., when a person is playing, fighting, drinking, or on drugs) and is, in this limited sense, an indication of immaturity. Inanimate movement (*m*)

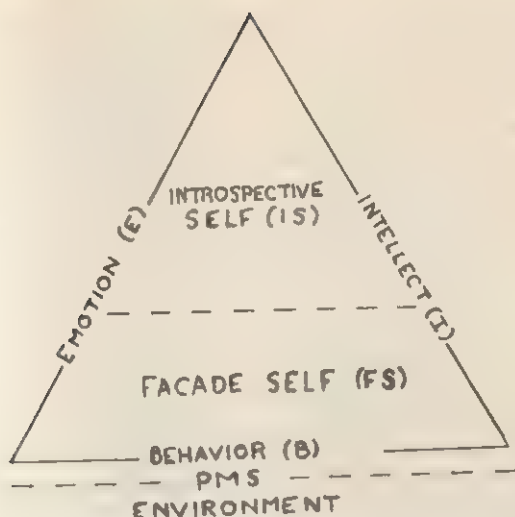


Figure 1. Showing how Facade Self attitudes and action tendencies are close to Behavior and hence apt to be expressed through the Perceptual-motor Screen. Introspective Self processes are pictured as occupying a "deeper" level of personality since they must pass through the Fa-

cade Self in order to become actualized. The modalities of Behavior, Intellect, and Emotion are represented as an interlocking tripartite system, positioned to show that it is only Behavior which is observable in the environment while the remainder of the psyche must be inferred.

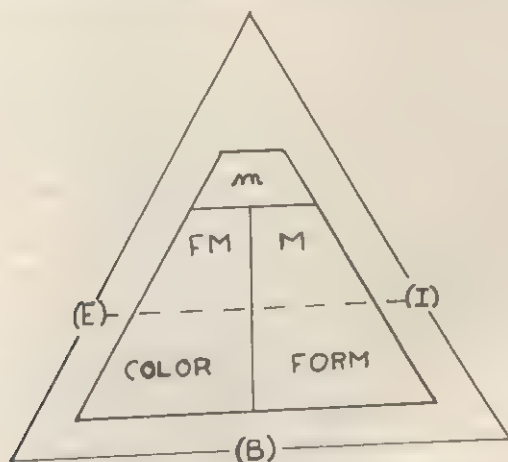


Figure 2. Showing how the Rorschach occupies a central position within the personality triangle but falls a bit short of measuring either terminal behavior (at the base) or pure fantasy (at the apex). Note how color and Form responses are closest to behavior, the former associated more with emotion, the latter more with intellect. FM and M responses represent

prototypal life roles which are internally derived and do not directly impinge upon behavior. Again, FM is associated more with emotion, M with intellect. Finally, M is furthest removed from behavior and is the best available Rorschach measure of fantasy material which is usually divorced from overt behavior.



is furthest removed from overt behavior and reflects fantasy material which would require very special circumstances to become transmuted into action.

As far as FS processes are concerned, the Form responses are held to reflect attitudes which are intellectual, objective, close to the surface and apt to be manifested in behavior via motoric counterparts. Color responses reveal the emotional impact of the environment on the human organism and hence reactivity based on affectivity. Chiaroscuro (light shading) has not been pictured in the diagram but is taken to indicate anxiety and, as a general rule, connotes a subjective feeling of distress accompanied by a hesitancy in expressing the thought, feeling, or action tendency with which it is associated.

### *Implications for Rorschach Interpretation*

The SA Rorschach paradigm has obvious interpretive implications. For example, in order to estimate the likelihood that the various psychological processes appearing in a Rorschach protocol will be manifested in behavior, it must be realized that the Rorschach scoring symbols which are closest to the motor system, form and color, are, paradoxically, static percepts while the movement responses (*M*, *FM*, *m*) represent IS processes which will eventuate in behavior only if they are appropriately integrated with the FS or if the FS is pathologically weakened. A moment's reflection will confirm the logic of this deduction. For instance, consider the fact that the Rorschachs of personality disorders are typically low on movement yet such people obviously do behave: in SA terms they are FS types with few IS processes to lend depth to the personality. Conversely, certain schizoid types produce many movement responses despite the fact that their observable behavior is quite stilted due to a rigid, intellectualized FS. It is therefore necessary to evaluate the nature of and integration among IS and FS components in order to determine the likelihood that "inner" tendencies will be behaviorally expressed. To be more specific, while acknowledging that personality does

tend to operate as a whole and that the interactions between functions can be very complex, the following rules can nevertheless be advanced:

1. The further the placement of the function from (B) in the personality triangle the more it partakes of fantasy and the less likelihood of being manifested in behavior.
2. The weaker the FS, the greater the odds that IS processes will be expressed, but in pathological form. An FS characterized by a low *F* + % and/or poor color (*CF*, *C*) allows imaginal resources to burst through relatively unencumbered by reality testing. In the same vein, an underdeveloped FS (low form and color) will not supply a desirable buffer between subjective processes and objective events.
3. The closer the resemblance between an IS tendency and an FS characteristic the better the chances that the tendency will work its way into behavior. For example, the aggression associated with the *M* response "A man shooting a gun" would be much more compatible with a form response such as "An arrow head" than one such as "leaf," the former embodying hostile, the latter passive-dependent FS attitudes. As a corollary it can be assumed that the less the FS and IS have in common the more conflicted is the personality structure.

SA can also help resolve some of the interpretive issues which have been noted in the literature and which still divide expert opinion. For example, Rorschach's original position concerning the *M* responses can perhaps be summed up by the statement that "... the more kinaesthesias, the less motor activity ..." (1942, p. 79). Other authors have developed this theme further, embellishing *M* with internal characteristics which include intrapsychic living (Barron, 1955), symbolic actions that have been frustrated and blocked (Furrer, 1925, p. 312), empathic relationships (Klopfer, Ainsworth, Klopfer, & Holt (1954, p. 264), and introversion, inner creativity and delay of drive impulses (Klopfer, 1956; Klopfer & Davidson, 1962). An opposing view, represented mainly by Piotrowski (1957) and his followers, holds that *M*s represent prototypal life roles which can be expected to directly influence behavior.

ior. SA would maintain that all these characterizations are complementary and contain elements of truth about the Rorschach *M*.

Being an intellectualized IS function, *M* involves the capacity for introspection, evaluation, life role formulation and delay of need gratification. But *M* is also close enough to the FS that, under suitable circumstances it is apt to produce relevant behavior. The present author has tried to demonstrate that *M* does indeed influence behavior by concentrating on exhibitionistic human movement and showing that this type of *M* is associated with an exhibitionistic style of life (Wagner, 1965). Further, it has been demonstrated that the expression of an exhibitionistic *M* is likely to occur when the FS too is exhibitionistic (Wagner & Hoover, 1971, 1972). Therefore, from the point of view of SA, it is entirely permissible to regard *M* as an introverted tendency which nevertheless can become materialized in behavior.

Another case in point might be the interpretation of *FM*, which also varies somewhat among Rorschach experts. For example, Klopfer (1940) sees the animal movement response as representing instinctual drives while Piotrowski views *FM* a little differently as indicative of earlier prototypal life roles which influence behavior in states of diminished consciousness (1957, p. 40). If it is hypothesized, according to SA, that *FM* is an IS function but that it is related more to emotion than intellect, then it follows that such responses are "instinctual" in the sense that they are more closely tied in with affect than thought; but it also follows that *FM* would tend to develop earlier than *M* (which is more dependent on language and reflective thought) and would be more observable during states of diminished consciousness when the intellectual function is subdued. Another implication of this analysis is that the presence of *FMs* in a Rorschach record when they are in abundance and are denied behavioral expression, can lead to psychosomatic symptoms. This association between *FM* and psychosomaticism has in fact been observed by many investigators (e.g., Booth, 1946; Kaldegg &

O'Neil, 1950; Krasner & Korneich, 1954; Osborne, Travis, & Sanders, 1950; Poser, 1951). To develop this theme a bit further, SA would hold that, since psychosomatic symptoms are generally associated with problems in the emotional sphere, such difficulties will usually be reflected on the Rorschach in terms of problems with the color and/or animal movement responses.

There seems to be less controversy surrounding the meaning of the third major type of Rorschach movement, the *m* or inanimate movement response; but here again SA can offer a contribution, sharpening and clarifying the interpretation. Klopfer (Klopfer & Kelly, 1942) saw the *m* as representing forces which are experienced by the individual as being hostile, uncontrollable, and unavailable for constructive use. Piotrowski (1957) views *m* as denoting tendencies which are not expressed outwardly and constructively but are nevertheless keenly felt. For SA, *m* lies near the apex of the personality triangle and is, therefore, closer to pure fantasy than either *M* or *FM*. This would mean that, by and large, the psychological processes associated with *m*, being furthest away from the FS, are the least likely to be expressed in behavior. Inanimate movement requires the capacity to abstract oneself from the real world; to imagine situations which, unless the subject is schizophrenic, are recognized as idealized and perhaps unattainable. To do so, as Piotrowski (1957) has pointed out, requires intelligence and the capacity for self-observation.

The experiencing of *m* can be disquieting since the imagined situations and aspirations are frequently recognized as lying beyond one's grasp. Furthermore, if the *m* are experienced as compelling, powerful and in conflict with other psychological tendencies, particularly those embodied in the FS, they can become ego-alien and threatening. The form level has much to do with determining the extent to which the fantasy material has become positively assimilated into the psychological dynamics. Generally speaking, the poorer the form level, the less enjoyment the subject derives from his fantasy life and the greater the disruption to psy-

chic harmony. The well perceived *m* is clearly recognized as one's own fantasy material and may even provide some bitter-sweet relief from prosaic reality. The critical distinction between *m* and the other movement responses (*FM*, *M*) is that the latter, although generated internally, are apt to express themselves in behavior when opportune situations arise, while the former usually remains covert and inaccessible to gross behavioral observation. Indeed, the most ready egress into the subject's fantasy life is through those projective techniques, like the Thematic Apperception Test, which are geared to reflect fantasy products. Therefore, most of the interpretations ascribed to *m* in the Rorschach literature can be accommodated within the SA paradigm by placing the scoring category at the apex of the triangle where it partakes of both thought and emotion yet is distant from behavior. In fact, these parameters might well be used to define "fantasy."

Turning now to the two major FS components, color and form, it is important to iterate that they are both slightly set back from overt behavior and, as such, represent tendencies to respond to external stimuli in a given way, *but not the reactions themselves*. They are attitudinal rather than behavioral. Color denotes a felt emotion generated by interpersonal contacts and form reflects a more intellectual awareness of social relationships. Other things being equal, the attitudes toward "people reality" embedded in both color and form will be behaviorally expressed; but the specific action tendencies are somewhat difficult to formulate because the percepts are static. It is a safe bet to regard a subject who perceives form responses such as "guns," "knives," and "animal traps" as an aggressive individual; but none of these percepts are quite as predictive as a response to the Hand Test such as "Holding a baseball bat and smashing someone over the head with it." Again, there are no fundamental disagreements between the SA approach to form and color and most other interpretations found in the literature; but SA does introduce a little more definitional precision and places these categories within a broader inter-

pretive context.

As far as form is concerned, a succinct definition supplied by Korchin and Larson (1977) comes very close to the position taken by SA: "Accurate form perception implies an awareness of, and in general a respect for, the social values which define the rules of organized social life." (p. 183). That is, for SA, a form response represents an orientation toward external reality which is both social and intellectual. Rorschach (1942) seems to have stressed the intellectual aspects of the *F* response with subsequent authors extending this interpretation to include form as a measure of "ego strength" (e.g., Beck, 1968; Klopfer, et al., 1954; Mayman, 1970; Weiner, 1966). SA has no quarrel with this view but would define ego strength in this context as the ability to accurately perceive social reality. The problem here is that the use of psychoanalytic terminology can carry with it certain implications which go beyond the fairly circumscribed view of *F* which is taken by SA. For SA, the hallmark of schizophrenia is a breakdown in the FS; this means that color as well as form is deleteriously affected in one way or another. In fact, in introspective types of schizophrenics the IS is also transmogrified since it is not subject to the corrective feedback supplied by an intact FS. Therefore, for SA, it would be incorrect to place the entire burden of reality contact on the shoulders of the *F* response. It should also be noted that the *F* response takes on an orienting or attitudinal function. That is, it is not only a measure of the individual's capacity to objectively perceive social reality but it also to some extent and mainly through content analysis affords some insight into the individual's social orientation, e.g., passive-dependent, affiliative, aggressive, compulsive, etc. How well the subject carries off the social roles revealed in the *F* responses depends on the form level. The more accurately the social milieu is perceived the more successful and appropriate the attendant behavior. Furthermore, the better the mesh between the potential action tendencies manifested in the *M* and the attitudes inherent in the *F* the smoother and more integrated the



## resultant behavior.

There is also basic agreement between SA theory and the general interpretations of *FC*, *CF*, and *C* which have appeared in the literature. SA is in accord with the fundamental position that color represents affect and that the more undifferentiated the color the more egocentric and labile the felt emotion (Rorschach, 1942). While theoretical points of view differ in attempts to explain why this is so there is notable consistency among authors that color is an indication of affect. SA would only add that the affect represented by color is an FS phenomenon, an emotional reaction engendered by the impact of the external, interpersonal world. It is the complement of the form response. Both represent orientations from which behavior can be inferred and both, via the level of perceptual accuracy, provide indices to the probable effectiveness and appropriateness of behavior vis-a-vis the real social environment. Therefore, juxtaposing the sum of color responses against the number of *M* responses would, according to SA, provide a comparison between internalized, intellectualized life roles and emotional reactivity to immediate environmental impact. Likewise, in discussing the *Erlebnistypus* Rorschach regarded a predominance of *M* as indicative of creativity, intelligence, and inner living; a predominance of color, conversely, pointed to stereotyped intelligence, labile affectivity, and a tendency to live "outwardly" (1942, p. 78). There is, again, communality between SA and classical Rorschach theory. However, SA would maintain that the *Erlebnistypus* is a rather specialized index which cuts diagonally across the personality triangle. It would perhaps be more relevant in describing the psychic economy to compare the sum of the FS processes (color + form) to the sum of the IS processes ( $M + FM + m$ ). Another useful ratio might be formed by juxtaposing the more intellectual categories ( $F + M$ ) and the more emotional and instinctual categories (color +  $FM$ ).

It is hoped that the foregoing discussion will suffice to indicate how SA can organize a number of seemingly disparate interpretations into a broader conceptual

framework and generate new approaches toward conceptualizing the interrelationships among Rorschach scoring categories and various forms of psychopathology.

It seems apposite at this point to acknowledge that, to some readers, the system of Rorschach interpretation advocated here may seem too simplistic. How, one might ask, is it possible to reduce the complex psychological phenomena tapped by the Rorschach to three modes of reactivity wrapped around a behavior-fantasy continuum? This type of criticism can be responded to (if not answered) as follows:

1. The three modes of experiencing are conceptually concise, phenomenologically identifiable (most people can differentiate among states of thinking, feeling, and acting) and historically recurrent, similar triads being mentioned in ancient philosophical-psychological systems which distinguish among intellect, emotion and movement (behavior).
2. The fantasy-behavior continuum is, again, experientially recognizable; normal individuals who sometimes fantasize and at other times behave can easily distinguish between the two processes. It is of utility in differentiating among projective tests and projective test variables in terms of traits and tendencies which are likely to be manifested in behavior and it is also of explanatory value in trying to understand the distinctions among various diagnostic classifications. For example, SA would hold that true personality disorders are, by definition, weak on IS processes and that the dissociative hysteric has an overlaid, conflicted IS, compared to the conversion hysteric who has few internal resources and whose problems with sex and aggression must be "converted" into physical symptoms.
3. SA points up a weakness in the Rorschach which has been peripherally alluded to but never pinpointed, namely, that the Rorschach is "set back" a bit from the FS and overt behavioral tendencies must therefore be inferred by assuming that (a) the potential behavior represented by the movement response will be manifested in real life rather than fantasy, a supposition which depends heavily on the integration between the FS and IS and the psychological integrity of the subject; and, or (b) that over



behavior can be predicted by analyzing the color and form responses which, while generally valid, requires that the symbolism of static percepts be insightfully translated into specific action tendencies.

4. Theoretical simplicity should only be criticized when it has little explanatory value. Science thrives on economic explanations. A precise formulation which has great generalizability is extolled as "elegant"; it is only when the theory doesn't work that it becomes deprecated as being "too simple." Furthermore SA, while simple in its basic outlines, does deal with very complex interactions, particularly when the practically infinite qualitative and quantitative variations in and among Rorschach percepts are taken into account and when it is recognized that there is really no sharp demarcation between the FS and the IS, the two psychological processes gradually merging into one another.

### Some Concluding Remarks

As is necessary for any scientific endeavor, SA recognizes the existence of a reciprocal relationship between theory and observation and adheres to the criterion of prediction as the ultimate test of validity. In the case of SA the observations which feed into the theory are responses to projective techniques and the predictions are molar units of behavior, particularly those generally regarded as aberrant. But in a deeper sense it should be acknowledged that SA implicitly affirms the legitimacy of inner psychological experiences as scientific data. Most of what the Rorschach reveals, though not directly observable, can have profound consequences for understanding and treating patients. In fact, while Rorschach's eclat is rightfully regarded as being the systematic use of ink blots to assess personality, perhaps an equally important contribution was his unabashed willingness to work with inferred psychological states as objectified through scoring analogues. That is, if color is recognized as an indication of an emotional state then no apologies need be offered for regarding a felt emotion as a valid psychological datum. It is not necessary to make obeisance to physiology, hastening to add that, after all, emotions

are really nothing but changes in the autonomic nervous system: the "nothing but" syndrome decried by Jung — which superficially lends an air of scientific credibility but in the long run explains nothing.

Projective techniques owe much of their success to the fact that they capture the subjective uniqueness of the human psyche as a functioning interrelated process. The present writer would like to argue that it is most unfortunate that, in the past, theorists have tried to make projective data conform with personality theories derived from other fields of endeavor, thus sacrificing much of what is special about such information. SA attempts to deal with projective techniques on their own terms by accepting projective data as basic empirical referents and accommodating the theory to the data. Whether or not SA has been successful in this endeavor remains to be determined; but the author would submit that there is much to be gained by exerting concerted efforts in this direction.

### References

- Barron, F. Threshold for the perception of human movement in inkblots. *Journal of Consulting Psychology*, 1955, 19, 33-38.
- Beck, S. J. Reality, Rorschach and perceptual theory. In A. Rabin (Ed.) *Projective techniques in personality assessment: A modern introduction*. New York: Springer, 1968.
- Booth, G. Organ function and form perception: Use of the Rorschach method with cases of chronic arthritis, Parkinsonism, and arterial hypertension. *Psychosomatic Medicine*, 1946, 8, 367-385.
- Furrer, A. Veber die bedeutung der "B" im Rorschachshen versuch. *Imago*, 1925, 11, 58-83.
- Kaldegg, A., & O'Neil, D. Rorschach patterns in duodenal ulcer. *Journal of Mental Science*, 1950, 96, 190-198.
- Klopfer, B. Personality aspects revealed by the Rorschach method. *Rorschach Research Exchange*, 1940, 4, 26-29.
- Klopfer, B., & Kelly, D. M. *The Rorschach Technique*. Yonkers, New York: World, 1942.
- Klopfer, B., Ainsworth, M., Klopfer, W. G., & Holt, R. R. *Developments in the Rorschach technique. Vol. I. Technique and theory*. New York: World, 1954.
- Klopfer, B. *Developments in the Rorschach technique. Vol. II. Fields of application*. New York: World, 1956.
- Klopfer, B., & Davidson, M. H. *The Rorschach technique: An introductory manual*. New York: Harcourt, Brace and World, 1962.

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- Korchin, S. J., & Larson, D. G. Form perception and ego functioning. In M. A. Rickers-Ovsiankina (Ed.), *Rorschach psychology*. New York: Robert E. Krieger, 1977.
- Krasner, L., & Korneich, M. Psychosomatic illness and projective tests: The Rorschach test. *Journal of Projective Techniques*, 1954, 3, 355-367.
- Mayman, M. Reality contact, defense effectiveness, and psychopathology in Rorschach form-level scores. In B. Klopfer, M. M. Meyer, F. B. Brawer, & W. G. Klopfer (Eds.), *Developments in the Rorschach technique, Vol. III. Aspects of personality structure*. New York: Harcourt Brace Jovanovich, 1970.
- Osborne, R., Travis, H., & Sanders, W. A. Rorschach characteristics of duodenal ulcer patients. *Journal of Clinical Psychology*, 1950, 6, 258-262.
- Piotrowski, Z. A. *Perceptanalysis*. New York: MacMillan, 1957.
- Poser, F. G. Personality factors in patients with duodenal ulcer: A Rorschach study. *Journal of Projective Techniques*, 1951, 15, 131-143.
- Rorschach, H. *Psychodiagnostics: A diagnostic test based on perception*. Bern: Hans Huber, 1942.
- Wagner, F. E. Exhibitionistic human movement responses of strippers: an attempt to validate the Rorschach M. *Journal of Projective Techniques & Personality Assessment*, 1965, 29, 252-254.
- Wagner, F. E. Structural analysis: A theory of personality based on projective techniques. *Journal of Personality Assessment*, 1971, 35, 422-435.
- Wagner, F. E. Diagnosis of conversion hysteria: An interpretation based on Structural Analysis. *Journal of Personality Assessment*, 1973, 37, 5-15.
- Wagner, E. E. The nature of the psychopath: Interpretations of projective findings based on Structural Analysis. *Perceptual and Motor Skills*, 1974, 39, 563-574.
- Wagner, E. E. The facade compulsive: A diagnostic formulation derived from projective testing. *Journal of Personality Assessment*, 1976, 40, 352-362. (a)
- Wagner, E. E. Personality dimensions measured by projective techniques: A formulation based on Structural Analysis. *Perceptual and Motor Skills*, 1976, 43, 247-253. (b)
- Wagner, E. E. The projective process: Inferences derived from Structural Analysis. *Perceptual and Motor Skills*, 1978, 46, 139-144.
- Wagner, E. E., & Heise, M. A comparison of three multiple personalities. *Journal of Personality Assessment*, 1974, 38, 308-331.
- Wagner, E. E., & Hoover, T. O. Exhibitionistic M in drama majors: A validation. *Perceptual and Motor Skills*, 1971, 32, 125-126.
- Wagner, E. E., & Hoover, T. O. Behavioral implication of Rorschach's human movement response. Further validation based on exhibitionistic Ms. *Perceptual and Motor Skills*, 1972, 35, 27-30.
- Weiner, J. B. *Psychodiagnosis in schizophrenia*. New York: Wiley, 1966.

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## The Temporal Stability of Some Rorschach Features

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**Summary:** One hundred nonpatient adults, screened for evidence of personality disorganization, were retested after a three-year interval to study the temporal consistency of the Rorschach. In general, the correlational analysis for 19 basic variables studied, and a directionality analysis for five ratios, illustrate a considerable sturdiness over time. It is postulated that these variables can be separated into situational related indices (state variables), and more stable scores indicative of durable response styles (trait variables), based on the assumption that variables with lower correlations would identify state variables, while the higher correlations would signify the trait features. Nine of the 19 variables yield retest correlations in excess of .80, while four of the five ratios studied indicate a sturdiness of "direction" over time.

The issue of reliability has appeared very often among the criticisms of the Rorschach. Those who have disavowed the usefulness of the test frequently point to the problems which have been encountered in attempting to establish evidence of internal consistency, derived from some form of split-half technique; and the limited data available concerning the temporal consistency of performance. In order to further support the clinical and experimental applications of the Rorschach in general, and the Comprehensive System in particular, the issue of reliability obviously cannot be ignored.

It is very true that the demonstration of any form of split-half reliability for the test poses many problems, none of which has been resolved to the satisfaction of those who critique the test. The problem with the split-half procedure is that the ten test stimuli differ in levels of difficulty and complexity, and probably have differing kinds of "stimulus pull." Nonetheless, some split-half studies have been completed, producing results which are far from being unrespectable. Vernon (1933) reported relatively low split-half reliabilities for all variables of the test except *R*. Hertz (1934) published an extensive study of the records of 100 junior high school students, in which she used an odd-even split of the cards and obtained reliability coefficients ranging from .66 to .97. Essentially the same approach was used by Ford (1946) with the records of younger children, who reported split-half reliabilities comparable

to those reported by Hertz. Orange (1953) reported low positive and significant correlations for the various locations scores, reaction times, and *R* for two groups, one nonpatient and the second consisting of hospitalized neurotics. He divided the cards on an odd-even basis but also attempted to redive the cards on the basis of stimulus ambiguity.

While it is true that the split-half technique eliminates the disadvantage of prior exposure to the blot, and controls for practice effect, it is probably not a good measure of the "sturdiness" of the Rorschach. The assumption that must apply in any split-half study, is that the subject will respond to any stimulus with essentially the same approach or style, which is probably not true for different stimulus conditions; and the Rorschach does appear to pose different stimulus conditions with its array of forms, colors, and chiaroscuro elements. While it is true that some response styles are more preferred, or have a higher expectancy of occurrence, this does not mean that an individual is totally inflexible, and thereby capable of altering his or her preferred style of responding. *But*, if most or all people do have preferred response styles which will manifest in the majority of their responses, and if the Rorschach is an instrument from which glimpses of those response styles can be derived, it follows that those same styles will be repeated in multiple Rorschach administrations. In other words, if the test is reliable it should reflect a certain consistency over time, which represents another

form of reliability which may be more important in establishing the usefulness of data collected from any single Rorschach protocol.

The rationale for, and some of the problems pertinent to, the temporal consistency, or test-retest approach with the Rorschach, is neatly summarized by Holzberg (1960, 1977). He points out that any or all of three conditions which should be met in test-retest situations, may not occur in Rorschach testing. The first is the stability of that which is being measured. Holzberg postulates that it may be unfair to assume that personality, as such, will be constant over time. The second is that the set of the subject will be the same, thereby permitting an "exactness" of data to appear from one testing to another. Since it has been demonstrated that different sets concerning the Rorschach situation do cause alterations in some data, Holzberg suggests that re-testing with the Rorschach may, in itself, create a different set that could produce spurious results. The third condition involves the element of memory. Swift (1944) obtained "only satisfactory" retest reliabilities for preschool children when the second testing was completed after 30 days, yet, she also found that 47% of the responses given during the first testing were remembered by her subjects, and following from Kelley (1942) agreed that the mental operations of the second testing will not be the same as during the first testing because of the memory influence.

While these problems are worth noting, none poses a convincing argument. In fact, two are based on assumptions which are at least partially incorrect. First, while alterations in the set of the subject concerning the test, may vary from one testing to another, the evidence indicates that the impact of this variation is generally seen in content rather than in the determinants (Exner, 1974). While it is true that a subject may be less "defensive" in a second testing, having acquired some knowledge of the stimuli and the task, it seems illogical to assume that the subject will produce a complete alteration in response styles. Quite the contrary, it can be postulated that, because the subject is less defensive during a second administration of the test,

the response styles will be more exposed or magnified. Thus, while *R* might be predicted to increase, and the length of articulations might be greater, it is unlikely that the response styles of the person will be so "fluid" over time as to change the structural features of the protocol dramatically.

The second questionable assumption concerns the impact of memory on the retest. If the subject had "seen" only one or two objects per blot, the memory influence could be substantial, but as has been demonstrated, subjects generally report only one or two objects, selected from a much larger number of objects that they actually perceive or identify as potential responses (Exner, Armbruster, & Mittman, 1978). Thus, the memory factor is not based so much on what was seen in the first testing, but rather, *what was reported*, and that requires some fairly sturdy engrams, especially if the time interval between the first and second testings is extensive. It is quite true that, in a retest situation, subjects will tend to verbalize a recall of the blot, or of an answer, *however*, in one of several retest studies completed after only a brief period, 20 phobic subjects, who had entered a systematic desensitization form of treatment after the first testing, presented some remarkably "poor" memories during a second administration nine months later. Six asked, during the retest, whether a different set of cards were being used, and 8 of the 20 prefaced a response at least twice during the retest, with "Oh, yes, this is the " and then proceeded to give an answer quite unlike any delivered during the first testing. Thus, while memory may play some role, the nature of that role is variable from one subject to another, and it seems unlikely that it will change the basic personality or response style features.

The issue of the stability of personality itself is a much more complex issue. Every approach to the study of personality, ranging from the psychoanalytic to the behavioral models, includes the notion that, at some point in time (usually early adulthood), a stabilization occurs between response relationships. Whether this is stated in terms of energy forces or response expectancies is less important than the fact that,



essentially, all of psychology is developed from this very premise. It is true that personality changes. This is well documented in the developmental psychology literature, and the literature in abnormal psychology has illustrated quite well how disorganization of personality occurs during severe turmoil. Changes have also been noted for people in various forms of treatment, especially those oriented toward a reconstruction of the personality; *but*, there is no position in psychology that suggests that the personality which has "stabilized," and is not subjected to psychopathological disorganization, or the influences of treatment, will undergo many changes during relatively brief periods, or even over several years.

The stabilized personality should be reflected in any scores derived from the Rorschach, which are related to durable response styles. Those scoring features, that are more related to variable features of personality, should be less consistent over time, however, this would not impinge upon evidence for their validity. Taken as a whole, much of the Rorschach data should remain consistent over time, while some will manifest evidence of less consistency, suggesting a relationship to situational phenomena. For instance, the presence of the inanimate movement determinant, *m*, has been demonstrated to appear with a significantly higher frequency under stress conditions (Exner, 1978; Shalit, 1965) than under conditions where stress is "low" or essentially absent. While this reflects a "temporal inconsistency" for that particular variable, it neither makes the test unreliable nor does it invalidate the meaningfulness of the variable itself. Spielberger (1966; Spielberger & Lushene, 1971) has presented a reasonably convincing series of studies to demonstrate that some anxiety is "state" evoked, that is, situationally related, while other features of anxiety are apparently "trait" related, that is, they show the more durable characteristics of the personality itself. It is these very same concepts that probably apply to Rorschach data, that is, some of the data represent state features, while other features of the data illustrate trait characteristics. In this context, studies of

temporal consistency become quite important to the differentiation of those variables, which can contribute substantially to a more sophisticated interpretation, and in instances of treatment planning, aids considerably in the selection of treatment targets and treatment modalities. Problems related to state conditions can often be alleviated through brief forms of intervention which do not necessarily focus on, nor interfere with, the trait features of the subject. Conversely, when psychological disarray involves a need to alter some of the more basic features of personality, brief forms of treatment are usually contraindicated, and longer, more complex forms of intervention will probably be required.

Actually, the handful of test-retest reliability studies which have been reported are reasonably encouraging. Ford (1946) reports reliabilities for the determinants ranging from .38 to .86 for a group of young children retested after one year, and those data must be viewed in the context of the developmental process. Holzman and Wexler (1950) deliberately used this technique with a group of schizophrenics, assuming that they would manifest considerable "unreliability." Surprisingly, the schizophrenic sample manifested significantly high and very respectable reliabilities across most scoring variables.

Any evaluation of the temporal consistency of the test should involve several groupings of subjects, retested at a variety of intervals, however, one of the most critical groups is nonpatient adults. They represent people who have, at least in theory, stabilized in their personality development, and thus, can be expected to display a consistency in behavior over time, assuming relative freedom from psychopathological states. It is assumed that retest data collected from such a group will provide the best illustration of those Rorschach variables which are durable, and those which are variable. The study reported here, is the major investigation in a matrix of studies of Rorschach reliability. One hundred subjects were retested after a three-year interval.

#### Method

At the first testing, 170 subjects, willing

to volunteer again in three years for a second testing, were recruited. Based on previous research (Exner & Murillo, 1973, 1975), it was assumed that some attrition would occur over such a long period. The original sample included 75 males and 95 females, between the ages of 22 and 47, about two-thirds of whom were from middle-class families, with the remaining one-third about equally divided between upper- and lower-class socio-economic groupings. After a subject volunteered for the project, a "significant other" (usually a member of the immediate family) completed a Form R of the Katz Adjustment Scale (Katz & Lyerly, 1963) concerning the recent behavior of the subject. These data were used to eliminate any volunteers displaying marked psychopathological behavior. The 170 subjects passing this screening were administered the Rorschach by one of 26 examiners used in the first phase of the investigation, none of whom tested more than 10 subjects. The collected protocols were not scored, but instead, stored for a 35-month interval. A previously devised system was used to maintain contact with the subjects during this time (Exner, Murillo, & Cannavo, Note 1). This scheme included telephone contacts at 90- to 100-day intervals to reaffirm addresses, etc., the occasional sending of greeting cards, and the completion of a brief behavioral questionnaire at the end of each of the first two years. Beginning with the 34th post-test month, subjects were contacted again to schedule the second administration of the test, which occurred as early as the 35th post-test month for some subjects, and as late as the 38th post-test month for others. In all, 113 of the original 170 subjects were located and agreed to the retest.

Twenty-two examiners were used to complete the second testing, only four of whom had been involved in the first testing, and none of those were assigned to retest a subject who they had tested originally. After 100 subjects had been retested, the project was terminated. Eight skilled technicians, who had previously demonstrated a high interscorer reliability across 15 records, and had experience scoring at least 50 protocols prior to this time, scored the 200 protocols "in the

blind," that is, without awareness of the purpose of the study, and also without knowing that the sample contained two records from each subject. The final group of 100 subjects contains 58 females and 42 males, ages 24 to 44, with a socio-economic distribution of 62 from middle-class levels, and 21 and 17 respectively from upper- and lower-class levels.

### Results

Nineteen variables, representing the "core" of Structural Summary data in the Comprehensive System, were computer coded. Three of these variables were collapsed into a single score as frequencies were usually so low that a separate correlation analysis for each is rather meaningless. These include: (a) a single sum of shading, including all variations of  $C + T + V + Y$ , (b) a single score for the  $FM + m$  composite as the  $m$  variable often appears with a zero frequency, (c) a  $CF + C + Cn$  composite, as the  $C$  and  $Cn$  variables appear with a zero frequency in most records. These variables were analyzed using a Pearson product-moment correlational technique. The correlation coefficients, and coefficients of determination for each of the 19 variables is shown in Table 1. An examination of Table 1 reveals that substantially high correlations occur for most all variables, with only the sum of shading variable, and the  $FM + m$  variable correlating below the .70 level. The median for all correlations, which range from .66 to .90, is .80.

A second analysis concerns the extent to which some of the ratios, which form a critical base for interpretation ( $EB$ ,  $EA$ :  $ep$ ,  $eb$ ,  $a:p$ ,  $FC$ :  $CF + C$ ), remain directionally constant over the three-year period. The results of this directionality analysis are shown in Table 2, which provides the  $Z$  transformation values concerning changes in directionality from the first to the second testings. The data indicate that four of the five ratios manifest a strong consistency over time, with only the  $eb$  showing a marked lack of consistency. It is important to point out that some subjects do not always manifest a distinct direction for some ratios. The best example of this is Rorschach's

Table 1

Correlation Coefficients and Coefficients of Determination for Two Testings,  
the Second Taken Between 35 and 38 Months After the First,  
For 100 Nonpatient Adults

Description		<i>r</i>	<i>r</i> <sup>2</sup>
VARIABLE			
<i>R</i>	Responses	.79	.63
<i>P</i>	Popular Responses	.73	.53
<i>Zf</i>	Z Frequency	.83	.70
DETERMINANTS			
<i>F</i>	Pure Form	.70	.50
<i>M</i>	Human Movement	.87	.76
<i>FM</i>	Animal Movement	.72	.52
<i>FM + m</i>	Animal Plus Inanimate Movement	.69	.48
<i>a</i>	Active Movement	.86	.74
<i>p</i>	Passive Movement	.75	.56
<i>FC</i>	Form Dominant Color Responses	.86	.73
<i>F + C + Cn</i>	Color Dominant Responses	.79	.63
SUM <i>C</i>	Sum Weighted Color Responses	.86	.74
SUM <i>SH</i>	Sum of All Shading Responses	.66	.43
PERCENTAGES-RATIOS			
<i>L</i>	Lambda-Proportion of <i>F</i>	.82	.68
<i>X+%</i>	Extended Good Form	.80	.64
<i>AFR</i>	Affective Ratio	.90	.82
$3r + (2)/R$	Egocentricity Index	.87	.77
<i>EA</i>	Experience Actual	.85	.73
<i>ep</i>	Experience Potential	.72	.52

ambitent, or ambi-equal, which is identified from the *Erlebnistypus* (*EB*) when the numbers in the ratio are nearly the same, such as 3:3.5, 4:3.0, etc. Therefore, directionality has been defined, for the purposes of this study, as those ratios where the number on one side exceeds the number of the other side by more than 1.0, so that an *EB* of 3:4.0 would not be considered as showing directionality, whereas as *EB* of 3:4.5 would be included among those manifesting directionality.

#### Discussion

Taken as a whole, these results indicate a substantial consistency, over time, for most of the 19 variables studied. As noted earlier, these 19 variables were selected for study because they constitute the "structural core" of the Comprehensive System from which interpretations are formulated; and because it seemed likely that some might display a greater temporal consistency than others. In that all manifest respectable validation data,



Table 2

Test-Retest Frequencies for Five Ratios,  
With Z Values Concerning Change in Directionality, for 100 Nonpatients

Ratios	Number With Direction in 2 Tests	Number With No Direction in 2 Tests	Number With Direction in 1 Test But Not 2	Number With Direction in 2 Tests Changing Direction	Z Value
EB	77	11	12	2	7.2*
EA : ep	71	13	16	2	6.4*
eb	30	29	41	1	1.6
a : p	68	9	24	0	5.4*
FC : CF + C	50	28	22	0	5.6*

\*  $p < .001$ , one-tailed test.

differences in temporal consistency should provide a basis from which the variables can be categorized into two broad groupings, that is, those reflecting features which are highly stable over time versus those which are considerably more variable over time. The former can be conceptualized in terms of basic personality response styles, or "traits" which would tend to permeate much of the individual's psychological and behavioral activity. The latter represent characteristics which are considerably less stable over time, probably illustrating response tendencies which occur under given conditions or "states," such as uncommon forms of stress. For example, it seems clear that the nonhuman movement ( $FM + m$ ) and shading ( $C' + Y + T + V$ ) variables stand out as being less consistent over time, indicating "state" features. This seems compatible with earlier research concerning these variables as they generally represent the more painful and/or disequilibrating psychological reactions often associated with stress conditions. This is illustrated quite well by the fact that the  $m$  determinant, when added to the  $FM$  variable, produces a lower retest correlation than for  $FM$  by itself. As previously noted,  $m$  appears to be very directly related to situational

stress conditions. The human movement and chromatic color variables show considerably more stability over time, apparently representing the sturdier "trait" form of response styles. A similar sturdiness is found in four of the five ratios analyzed ( $EB$ ,  $EA:ep$ ,  $FC:CF + C$ , and  $a:p$ ), all of which have very high Z transformation values.

The several variables which tend to manifest considerable stability over time include the Z frequency ( $Zf$ ) which relates to organizational striving; the proportion of pure  $F$  in the record ( $L$ ), which appears to be an index of the extent to which people can avoid complex stimuli; the overall form quality or perceptual accuracy ( $X + \%$ ) which is related to reality testing; and the egocentricity index ( $3r + (2)/R$ ) which is related to self-focusing behavior (Exner, 1974, 1978).

Probably the most surprising retest correlation is that for the Affective Ratio ( $Afr$ ) which is .90. The research concerning this ratio, or the 8-9-10% as calculated in some other systems, has been limited and often very controversial. Exner (1974) was very cautious about its interpretive usefulness, suggesting that its use be limited to those circumstances when it is weighed in the context of the Lambda ( $L$ ), the  $FC:CF + C$  ratio, and the  $EB$ ;



and that at best, it may provide only a clue to one's responsiveness to emotionally toned stimuli. The very high correlation for the *Afr* seems to give much more credence to the notion that it does, in fact, reflect a basic response style, probably illustrating the extent to which one is willing or unwilling to process and respond to emotionally toned stimuli.

It is very difficult, if not impossible, to define with precision that correlational point, or range, which would separate the "state" and "trait" variables. A conservative measurement approach would probably include minimums of no lower than .85 or .80, but it is always risky to attempt to set a specific figure as the absolute. For instance, there are five of the 19 variables that are difficult to categorize in terms of a "trait-state" conceptual framework (*R*, *P*, *F*, *a*, *p*). All show retest correlations between .70 and .80, which are high, yet reflect a considerable variance which is unaccounted. Obviously, none are ever interpreted in "isolation," so that their full meaningfulness will often be contingent on other features in a protocol. For instance, it is fairly well established that *R* may be increased significantly by alterations in the testing conditions or the set under which the test is taken (Exner, Armbruster, & Mittman, 1978). In that context, *R* might be considered as a "state" variable. Conversely, normative data reveal that *R* is fairly constant for large and diversified samples when the test is administered under more orthodox circumstances (Exner, 1978), and in that context, *R* might be conceptualized as a "trait" characteristic. Similarly, the *P* variable shows a relatively low retest correlation (.73), which in itself would dictate some caution in using the *P* frequency as a "sturdy" index of one's orientation toward conventionality; however, when *P* is studied in the context of the location score distribution, the levels of form quality, and *R*, its usefulness in contributing information concerning conformity, conservatism, or conventionality is probably increased.

Several of the data in Table 2 may be even more important than the retest correlations, especially in terms of Rorschach interpretation. First, of the 77 subjects

showing a clear directionality in the *EB* at the first testing, 75 showed the same direction at the second testing. This seems to provide strong support for Rorschach's contention that the phenomena of introversiveness and extratensiveness are stable components of the adult personality. Interestingly, 20 of the 23 subjects who *did not* show direction in *both* testings had *EB*'s in which the two numbers of the ratio differed at 1.0 or less at the first testing. In other words, they are ambients, and 11 of those 20 continued to show the same relationship between *M* and *Sum C* at the second testing. If those 11 subjects are added to the 75 showing the same directionality in both testings, this means that 86 of the 100 subjects manifest a very specific style over the three-year interval. A subdivision of the 86 subjects indicates that 35 remained introversive, 40 remained extratensive, and 11 remained as ambients.

The relative relationship between the *EA* and *ep* is also very important. The *EA* appears to offer some index of the extent to which the person has access to his own resources. It provides essentially nothing about how effectively those resources are used, but it does offer data about whether the person is cognitively active in determining his or her behaviors. Conversely, the *ep* provides some information about ongoing psychological activities which are impinging upon the individual as a stimulus. In 52 of the 71 cases showing directionality in both testings, *EA* was higher than *ep*, and none of those 52 changed direction for this relationship at the second testing. Thus, it would seem that when *EA* exceeds *ep*, a more stable relationship exists than when the reverse is true. The data concerning the active and passive movement responses also tends to confirm a significant stability in that ratio. Of the 67 subjects showing directionality in both testings, 55 gave more active movement, and none of the 55 changed directions. Similarly, all 12 who gave more passive movement in the first testing repeated this performance in the second test.

The data concerning the *FC:CF+C* ratio may be slightly misleading. Forty-four of the 50 subjects showing direction-

ality in both tests, none of whom changed direction in the second testing, had more  $FC$  than  $CF + C$ . In fact, 72 of the 100 subjects tested initially had more  $FC$  than  $CF + C$ ; however, in 28 of those cases the  $FC$  frequency exceeded the  $CF + C$  frequency by only 1.0, and for purposes of data analysis, were not considered as showing directionality. An examination of the ratios for those 28 cases reveals that 21 of the 28 continued to have more  $FC$  than  $CF + C$  in the second test. Thus, 65 of the 100 subjects delivered more  $FC$  than  $CF + C$  in both tests, or stated differently, nearly two-thirds of all subjects showed a consistent tendency toward more modulated affective displays.

The  $eb$ , as contrasted with the other four ratios analyzed for temporal stability, shows considerable variation over time for directionality. Thirty subjects did show directionality in both tests, and only 1 of the 30 changed direction in the second testing; however, 23 of the 41 subjects showing clear directionality in one test, but not the other, show the directionality in the first testing, 12 being higher on the left side of the ratio and 11 being higher on the right side of the ratio. In the second test, 17 of the 23 changed to an absolute zero difference between the two sides of the ratio. Similarly, the 18 subjects who had been at zero or near zero (1 point) during the first test, split evenly for direction in the second testing, with nine being high for each side of the ratio. These data, plus the relatively low retest correlations for the variables which comprise the  $eb$  (nonhuman movement plus shading), support the notion that the kinds of answers which constitute the  $eb$  are not reflective of durable response styles, but rather tend to illustrate more transient psychological experiences.

Finally, it seems very important to reaffirm that the variables and ratios analyzed here do not reflect the full array of Rorschach scores, but rather have focused on scoring features which have been identified, through validation studies, as being the more critical elements of the structural data. Overall, the data are very encouraging concerning the temporal consistency of these basic elements, and appear to discriminate be-

tween those which are highly stable and those which are more subject to variation as a product of situational conditions. These findings should add considerably to the firmness of many interpretive postulates which have developed concerning these features of the test.

#### Reference Note

1. Exner, J. E., Murillo, L. G., & Cannavo, F. *Disagreement between ex-patient and relative behavioral reports as related to relapse in non-schizophrenic patients*. Eastern Psychological Association, 1973, Washington, D. C.

#### References

- Exner, J. E. *The Rorschach: A comprehensive system*. New York: Wiley, 1974.
- Exner, J. E. *The Rorschach: A comprehensive system. Volume II. Current research and advanced interpretation*. New York: Wiley, 1978.
- Exner, J. E., Armbruster, G. L., & Mittman, B. The Rorschach response process. *Journal of Personality Assessment*, 1978, 42, 27-38.
- Exner, J. E., & Murillo, L. G. Effectiveness of regressive ECT with process schizophrenics. *Disorders of the Nervous System*, 1973, 34, 44-48.
- Exner, J. E., & Murillo, L. G. Early prediction of post-hospitalization relapse. *Journal of Psychiatric Research*, 1975, 12, 231-237.
- Ford, M. The application of the Rorschach test to young children. *University of Minnesota Child Welfare Monograph*, No. 23, 1946.
- Hertz, M. R. The reliability of the Rorschach inkblot test. *Journal of Applied Psychology*, 1934, 18, 461-477.
- Holzberg, J. D. Reliability re-examined. In M. A. Rickers-Ovsiankina (Ed.), *Rorschach psychology*. New York: Wiley, 1960.
- Holzberg, J. D. Reliability re-examined. In M. A. Rickers-Ovsiankina (Ed.), *Rorschach psychology* (2nd ed.). Huntington, N. Y.: Krieger, 1977.
- Holzberg, J. D., & Wexler, M. The predictability of schizophrenic performance on the Rorschach test. *Journal of Consulting Psychology*, 1950, 14, 395-399.
- Katz, M., & Lyerly, S. Methods of measuring adjustment and social behavior in the community. *Psychological Reports*, 1963, 13, 503-535.
- Kelley, T. L. The reliability coefficient. *Psychometrika*, 1942, 7, 75-83.
- Orange, A. Perceptual consistency as measured by the Rorschach. *Journal of Projective Techniques*, 1953, 17, 224-228.
- Shalit, B. The effects of environmental stimulation on the  $M$ ,  $F$ ,  $M$ , in response in the Rorschach. *Journal of Projective Techniques & Personality Assessment*, 1965, 29, 228-231.
- Spielberger, C. D. *Anxiety and behavior*. New York: Academic, 1966.

Spielberger, C. D., Lushene, R. E., & McAdoo, W. G. Theory and measurement of anxiety states. In R. B. Cattell (Ed.), *Handbook of modern personality theory*. Chicago: Aldine, 1971.

Swift, J. W. Reliability of Rorschach scoring categories with preschool children. *Child Development*, 1944, 15, 207-216.

Vernon, P. E. The Rorschach ink-blot test. II *British Journal of Medical Psychology*, 1933, 13, 179-205.

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## An Investigation of the Reliability of the Rosenzweig Picture-Frustration (P-F) Study, Children's Form

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**Summary:** Presents data on the retest and split-half reliability of the Rosenzweig Picture-Frustration (P-F) Study, Children's Form, for two groups of subjects (aged 10-11 and 12-13 years, respectively), each group tested twice at an interval of three months. It was found that the retest reliability for all scoring categories (except O-D) were statistically significant (.01 or .05 level). GCR proved stable for the younger group ( $r = .53$ ) but not for the older group. The difference here may be due to the less comfortable retest conditions prevailing for the older subjects. Reliability by retest was consistently higher than by the less appropriate split-half method, but the latter proved, nevertheless, to be in the main favorable.

In a previous article (Rosenzweig, Ludwig, & Adelman, 1975) the reliability of the Rosenzweig Picture-Frustration Study was discussed, and some new data were presented together with a review of other relevant literature. The emphasis was designedly on the retest reliability of the instrument, and the Adult Form was highlighted. Very brief mention was made of the Children's Form. It is the purpose of this paper to supplement the earlier one by reporting the results of two projects on the reliability of that Form. Split-half will again be compared with retest reliability results.

### *The Rosenzweig Picture-Frustration (P-F) Study and Its Constructs*

The Rosenzweig Picture-Frustration (P-F) Study or — by its full name — The Picture-Association Method for Assessing Reactions to Frustration, represents a limited projective procedure for disclosing certain patterns of response to everyday stress that are of widely recognized importance in both normal and abnormal adjustment. The material of the technique is a series of 24 cartoon-like pictures, each depicting two persons who are involved in a mildly frustrating situation of common occurrence. The figure at the left of each picture is shown saying certain words which either help to describe the frustration of the other individual or which are themselves actually frustrating to him. The person on the right is always shown with a blank caption box above. Facial features and other expressions of personality have been deliberately omitted

from all the pictures. The subject is instructed to examine the situations one at a time and to write in the blank box the first reply of the *anonymous* person which enters the subject's mind.

To define the set of the subject, scores are assigned each response under two main categories (constructs): Direction of Aggression and Type of Aggression. Under *Direction of Aggression* are included extraggression (*E-A*), in which aggression is turned onto the environment; intraggression (*I-A*), in which it is turned by the subject upon himself; and imaggression (*M-A*), in which aggression is evaded in an attempt to gloss over the frustration. It is as if — to use a paraphrase — extraggression turns aggression *out*, intraggression turns it *in*, and imaggression turns it *off*. Under *Type of Aggression* fall obstacle-dominance (*O-D*), in which the barrier occasioning the frustration stands out in the response; ego-defense (*E-D*), in which the ego of the subject predominates to defend itself; and need-persistence (*N-P*), in which the solution of the frustrating problem is emphasized by pursuing the goal despite the obstacle. From the combination of these six categories there results for each item nine possible scoring factors. The factors serve for the actual scores assigned by the examiner, but the scoring blank provides for recomposing the factors into the six categories. These latter are the basic constructs of the Study and are regarded as more essential than the factors for interpretation and for assessing reliability and validity. A measure of social



conformity (Group Conformity Rating: GCR) can be derived by comparing a subject's responses to normative modal responses on certain items. A chart with detailed discussion of the P-F scoring rubrics may be found elsewhere (Rosenzweig, 1976); Rosenzweig et al., 1975).

### Method

#### Subjects

The subjects were 88 public school children, ranging in age from 10 through 13 years. Of these, 43 were 10-11 years of age, and 45 were at the 12-13 year level; the distribution of the sexes was approximately equal in both groups. The particular age choice was made in order to have subjects old enough to read and write without special difficulty, and thus permit group administration. Since normative data have indicated that reactions to frustration may vary with age, two different ages were selected. As it turned out, the conditions under which the second test was administered to each group were somewhat different. The results for each age level will therefore be presented separately.

#### Procedure

Subjects at both age levels were administered the P-F by the group method on two occasions separated by a three-month time interval. The first administration took place under the usual conditions; at the time of the second testing, however, some modification of the instructions was necessary in view of the fact that the subjects inevitably recognized the test as one which they had taken previously. For the retest administration, therefore, the subjects were instructed not to attempt to remember their former responses, but to reply with their first associations as if they had never before seen the items. It is possible that some subjects interpreted these directions to mean that they must deliberately *refrain* from giving their previous responses, in which case the results of the investigation were actually attenuated.

Except for this modification of the instructions at the time of the second testing, the conditions of both administrations were essentially alike for the group of 10-11 year-olds. For the older group,

however, a further alteration in the retest conditions was required by the circumstance of their having, in the interim, been promoted from elementary to junior-high school. This occurrence necessitated their being tested on the second occasion, not in their own room, as on previous occasion, but in a central auditorium to which they had to be summoned from their now diverse classes. Since in many instances students were interrupted in the midst of such pleasurable activities as gym or swimming, the conditions under which the second administration occurred may, on the whole, be assumed to have been less favorable for the older group.

### Results

#### 1. Split-half Reliability: Mean results.

The reliability of the Children's Form of the P-F Study was first investigated by means of the split-half method. Responses to the odd-numbered items on Test 1 were compared with those for the even-numbered situations. Means and standard deviations of odd and even items for all categories and GCR are presented for the 10-11 year level in Table 1; results for the older group may be found in Table 2.

At the younger age level, mean *I-A%* and *O-D%* are found to show a small but statistically significant decrease in the even items, while mean *E-D%* is significantly higher in these situations. In the older subjects, reliable mean differences between the two sets of items are found for *O-D%* and *E-D%*, the former showing a decrease, and the latter a rise in the even items. Mean differences for other categories are negligible in the two groups. When standard deviations for the two sets of items are examined, the odd items in both groups of subjects are seen in general to be slightly more variable than the even; no difference between standard deviations was, however, found to be statistically reliable.

It is therefore apparent that odd and even items of the Children's Form of the P-F Study differ significantly in the type of response elicited, on the average, from subjects at both age levels. These differences, although not large, are statistically reliable for three scoring categories — in-

Table 1

Means and Standard Deviations on Odd and Even Items for P-F Categories and GCR  
(44 Subjects, Age 10-11 years)

		<i>E-A%</i>	<i>I-A%</i>	<i>M-A%</i>	<i>O-D%</i>	<i>E-D%</i>	<i>N-P%</i>	GCR
Odd Items	<i>M</i>	39.6	32.0	28.6	16.8	52.4	30.4	65.8
	<i>SD</i>	19.4	11.4	13.6	10.2	11.4	11.8	12.6
Even Items	<i>M</i>	41.4	25.2	33.8	11.8	62.4	26.2	65.4
	<i>SD</i>	15.8	10.0	12.2	7.0	11.8	10.8	11.6

Table 2

Means and Standard Deviations on Odd and Even Items for P-F Categories and GCR  
(45 Subjects, Age 12-13 years)

		<i>E-A%</i>	<i>I-A%</i>	<i>M-A%</i>	<i>O-D%</i>	<i>E-D%</i>	<i>N-P%</i>	GCR
Odd Items	<i>M</i>	38.6	31.0	30.2	19.4	49.6	31.0	60.8
	<i>SD</i>	16.6	10.2	15.8	15.0	11.8	13.6	13.8
Even Items	<i>M</i>	39.4	28.6	32.0	13.6	59.4	27.0	64.2
	<i>SD</i>	12.8	8.2	11.8	6.4	12.2	11.6	11.6

traggession, obstacle-dominance, and ego-defensiveness. This finding confirms those of the previous investigation of split-half reliability in the Adult Form of the Study, and indicates that the two halves of the instrument are not of equivalent stimulus value for the individual.

**Correlational results.** Product-moment correlations between odd and even items of Test 1 are presented, for subjects at both age levels, in Table 3. Coefficients, corrected for attenuation by means of the Spearman-Brown prophecy formula, are given for the six scoring categories and GCR.

For the 10-11 year-old subjects, significant split-half reliability is found for five of the seven variables — correlations for *E-A*, *I-A*, *M-A*, and *N-P*, ranging from .46 to .82, are significant at the .01 level of confidence, while that for GCR reaches the .05 level of significance.

Coefficients for the older subjects tend, in general, to be somewhat lower. Significant reliability appears only for four categories — *E-A*, *I-A*, *M-A*, and *O-D* — while correlations in other variables are negligible.

Categories relating to direction of aggression are thus seen to have significant split-half reliability for both groups of subjects, while Type of Aggression and GCR show less consistent correspondence.

**2. Retest Reliability: Scoring Categories and GCR.** Mean percentages and standard deviations for the scoring categories and GCR are presented, for the 10-11 year-old group, in Table 4; comparable figures for the older subjects are given in Table 5. Results for the two tests are remarkably similar, no mean differences larger than 3.2 percentage points appearing in either group. Standard de-

Table 3

Product-moment Correlations (corrected) Between Odd and Even Items of P-F Categories and GCR

	<i>E-A%</i>	<i>I-A%</i>	<i>M-A%</i>	<i>O-D%</i>	<i>E-D%</i>	<i>N-P%</i>	GCR
10-11 years ( <i>n</i> = 44)	.82**	.57**	.62**	-.04	.28	.46**	.35*
12-13 years ( <i>n</i> = 45)	.68**	.32*	.60**	.36*	.23	.13	.16

\* Significant at the .05 level of confidence.

\*\* Significant at the .01 level of confidence.

Table 4

Means and Standard Deviations on Tests 1 and 2 for P-F Categories and GCR  
(43 Subjects Age 10-11 years)

		<i>E-A%</i>	<i>I-A%</i>	<i>M-A%</i>	<i>O-D%</i>	<i>E-D%</i>	<i>N-P%</i>	GCR
Test 1	<i>M</i>	39.2	28.7	31.6	14.8	56.5	28.3	65.8
	<i>SD</i>	15.1	8.7	10.4	5.8	8.0	9.1	9.4
Test 2	<i>M</i>	39.1	29.0	31.9	13.9	54.6	31.5	63.3
	<i>SD</i>	14.7	8.0	10.1	6.0	9.4	9.0	9.2

viations for Test 1 and Test 2 also show no significant differences. Mean scores and standard deviations for both tests are, moreover, comparable to the norms at each age level. Since these findings indicate no tendency for responses to the second test to differ consistently from those of the first, it may be concluded that the two administrations of the Study are, on the average, roughly equivalent for these subjects. These results are in contrast to those yielded by application of the split-half technique, where the two halves of the P-F were found to be of unequal weight in eliciting the various types of response.

Product-moment correlations between Test 1 and Test 2 for the scoring categories and GCR are presented in Table 6. It may be seen that the three categories relating to

Direction of Aggression show a highly significant degree of relationship in both groups. Of these, *E-A%* is most highly reliable at both age levels, with correlations of .69 and .64, respectively, in the younger and older subjects. At the 19-11 year level, *I-A%* and *M-A%* follow in that order, with correlations of .65 and .57; these positions are reversed in the 12-13 year-olds, where the correlation for *M-A* is .59 and that for *I-A* only .46.

Turning now to Type of Aggression, significant relationships in *E-D%* and *N-P%* are found for both groups. In the younger subjects, *E-D%* shows a correlation of .56, while that for *N-P%* is .51; the corresponding figures for the older group are .40 and .50. Results for *O-D%* are less consistent; here, the correlation of .32 for the younger group just misses

Table 5

Means and Standard Deviations on Tests 1 and 2 for P-F Categories and GCR  
(45 Subjects, Age 12-13 years)

		<i>E-A%</i>	<i>I-A%</i>	<i>M-A%</i>	<i>O-D%</i>	<i>E-D%</i>	<i>N-P%</i>	GCR
Test 1	<i>M</i>	39.2	29.5	31.2	16.5	54.0	29.5	62.9
	<i>SD</i>	13.1	7.2	11.8	5.9	8.9	9.3	8.2
Test 2	<i>M</i>	37.7	30.5	31.8	16.8	52.1	31.1	61.3
	<i>SD</i>	15.5	8.4	12.1	6.7	10.5	10.9	8.4

Table 6

Product-moment Correlations Between Test 1 and Test 2 for P-F Categories and GCR

	<i>E-A%</i>	<i>I-A%</i>	<i>M-A%</i>	<i>O-D%</i>	<i>E-D%</i>	<i>N-P%</i>	GCR
10-11 years ( <i>n</i> = 43)	.69**	.65**	.57**	.32	.56**	.51**	.53**
12-13 years ( <i>n</i> = 45)	.64**	.46**	.59**	.33*	.40**	.50**	.26

\* Significant at the .05 level of confidence.

\*\* Significant at the .01 level of confidence.

statistical significance, while the coefficient of .33 for the 12-13 year-olds barely achieves reliability at the .05 level.

With respect to the GCR, significant reliability is found only for the 10-11 year group, where the correlation between Tests 1 and 2 is .53. For the older subjects, this figure is .26, a low and statistically unreliable degree of relationship.

Except in the case of *O-D%*, therefore, these data consistently reveal a relatively high degree of test-retest reliability among the six P-F scoring categories in the two groups of subjects here investigated. Scores relating to Direction of Aggression appear somewhat more stable in both groups than those concerned with Type of Aggression, while GCR, although highly reliable in one group of subjects, shows little stability in the second. No consistent differences are apparent between results at the two age levels; whether

the results for the older subjects were attenuated by the relatively unfavorable conditions under which the second test was administered to this group can only be surmised.

When retest correlations for the several scores are compared with those obtained by the split-half technique, the former are, in general, seen to be more consistently indicative of the reliability of the Study. Although categories *E-A*, *I-A*, and *M-A* are shown to be comparatively stable by both the split-half and the retest techniques, the reliability of the various Types of Aggression is more clearly demonstrated by the retest method. Whereas split-half correlations reflected significant reliability only for *N-P%* in the younger subjects and for the *O-D%* in the older group, test-retest coefficients are significantly high for *E-D%* and *N-P%*, and moderately high for *O-D%*, in both



groups of subjects. Retest correlations for GCR are also somewhat higher, at both age levels, than the corresponding split-half figures.

In general, therefore, these data show the test-retest technique to be more successful than the split-half method in demonstrating the reliability of the P-F Study. This result, together with the finding that mean scores for the initial and retest administrations are more highly comparable than those of the two halves of the Study, indicates the retest method to be the more appropriate for the Children's Form, as well as for the Adult Form, of the instrument. It should be noted, however, that the split-half method, although clearly unfavorable for the reliability of the Adult Form, is not totally inadequate for the Children's Form, since, in the latter, considerable stability can be demonstrated for categories *E-A*, *I-A*, and *M-A* even by means of the split-half method.

### Conclusion

From the results of this investigation, it may be concluded that the retest reliability of the P-F after a three-month interval is moderately high for all scoring

categories except *O-D*%. Results for GCR are more ambiguous, with significant correspondence only in the younger age group. Split-half reliability, although poorer in general than retest, is high for *E-A*, *I-A*, and *M-A* in both groups of subjects. The categories for Direction of Aggression proved to be more reliable than those for Type of Aggression by both methods of evaluation. In general, these results confirm and extend the findings in the earlier report on reliability (Rosenzweig et al., 1975).

### References

- Rosenzweig, S. Aggressive behavior and the Rosenzweig Picture-Frustration Study. *Journal of Clinical Psychology*, 1976, 32, 885-891.
- Rosenzweig, S., Ludwig, D. J., & Adelman, S. Retest reliability of the Rosenzweig Picture-Frustration Study and similar semiprojective techniques. *Journal of Personality Assessment*, 1975, 39, 3-12.
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## Quality of Drawing as a Factor in the Interpretation of Figure Drawings

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**Summary:** Examined the drawings of 32 poliomyelitis patients and their matched controls to see whether figure drawings primarily reflect the subject's projection of psychological state, ability to draw, or some combination of these two factors. An overview of the literature is also given. Drawings from disabled and nondisabled subjects were reliably rated for quality, with no significant quality difference found between groups. Analyses of variance were then used to compare the drawings on several different measures of drawing size, completion and movement that might be assumed on the basis of the literature, to reflect the subjects' projection of disability status. Results showed that quality of drawing was a significant factor in 13 of the 17 comparisons while disability status proved to be a significant factor in only one of the 17 comparisons. There were no significant interactions. Therefore, the overall findings are consistent with the hypothesis that quality of drawing — rather than projective mechanisms — may at times be the overwhelming determinant of clinical and research findings with figure drawings.

The use of human figure drawings in clinical and experimental work has occupied a curious niche in contemporary psychology. Following Machover's (1949) description of the Draw a Person Test (DAP), a cumulative literature has received periodic, comprehensive review notably by Harris (1963), Roback (1968), and Swensen (1957, 1968). These summaries have documented some utility in human figure drawing, but have equally stressed the limitations of the method in clinical and research psychology. Other less comprehensive reviews have ranged from cautionary to disparaging (e.g., Harris, 1972; Klopfer & Taulbee, 1976).

Although it is generally conceded that graphic representations portray individual, idiosyncratic and idiodynamic characteristics of the artists who compose them, five types of criticism have been directed at the test as a reliable and valid projective technique. The first type has pointed to the relative incapability of the test to show one-to-one significance between *molecular* (sign-specific, isomorphic) features of human figure drawings

and specific characteristics (or "variables") associated with the artist-subjects. Second, there have been criticisms concerning the capability of drawings to convey *molar* (global, "holistic") features which are reliably or validly connected to the experimental subjects. Third, there has been a criticism of methodological issues, notably in studies concerned with standardization of scoring, testing of specialized scales or connected to interrater reliability. Fourth, there is a literature which — despite the statistically significant results of some studies — has questioned the construct validity (at either molar or molecular levels) of various researches. Finally, some studies have criticized the use of drawings as personal measures through investigations of contextual, situational, maturational and developmental factors relating to the drawing of human figures. The biasing influence of these factors has been less abundantly documented than other levels of criticism, especially in the context of adult drawings.

The voluminous literature concerning sign specific reliability and validity have been capably summarized by the authors cited above. Interrater reliability has been directly and incidentally confronted through the contributions of Albee and Hamlin (1949), Apfeldorf, Randolf, &

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Whitman (1963), Bieliauskas and Bistrow (1959), Cassel, Johnson, and Burns (1958), Craddick, Leipold, and Cacavas (1962), Fisher and Fisher (1950), Gasorek (1951), Grams and Rinder (1958), Lehner and Gunderson (1953), Lewinsohn (1965), Stoltz and Coltharp (1961), Strumpfer (1963), and Watson (1967). With few exceptions, these studies have shown a relatively high degree of reliability in inter-rater judgments. Some of these studies have shown high reliability even when contrasting groups of judges (trained psychologists, trained artists, or naive laymen) were used to rank the same drawings. Since these various raters used differing criteria to explain similar rank orderings (i.e. psychologists using "adjustment criteria," artists using "drawing sophistication"), the construct validity and the interpretation of human figure drawing instruments has been seriously challenged. Some of these studies raised the added question of whether quality of drawing factors were not prominent or perhaps overwhelming in judgments concerning isomorphic and global characteristics of the test data.

Part of the confusion in the literature has also been attributed to the uniqueness of figure drawing as a "projective" test. In contrast to the Rorschach or the TAT, human figure drawing requires that the experimental subject produce his own stimuli which are thereafter analyzed and interpreted. Because of the complexities of the drawing task, these stimuli are necessarily idiosyncratic and unstandardized. Additionally, efforts to analyze (i.e., psychologize) aspects of figure drawing have in the past, mostly glossed over the complex psychomotor task involved in the act of drawing. Except in trained artists, there is a significant discrepancy between subjects' ability to recognize or verbally describe objects as compared to their capacity to draw these objects authentically. The act of drawing includes not only visual identification of objects, but also a complex set of learned responses involving eye-hand coordination, mastery of various media used for drawing and the acquisition of skill in coordinating fine motions of the muscles of the arm, hand, and fingers.

In a similar vein, the maturational and

age-related factors affecting drawing ability have not been emphasized in the literature concerning adult drawings although such considerations are central in the use of children's drawings as reviewed in Lowenfeld (1957) and Harris (1963).

Beginning with Whytmyre (1953), Lewinsohn (1956) and Sherman (1958a, 1958b), the significance of factors concerned with artistic Quality of Drawing have received increasing attention. Goodenough (1926) and Harris (1963) have summarized earlier attempts to standardize drawings, principally in regard to the scaling of intellectual abilities in children. Subsequent attempts to scale and standardize quality of drawing factors have been developed in studies of children and adults, as well as "normal" and experimental populations (Goodenough & Harris, 1950; Harris, 1963; Kellogg, 1955; Lewinsohn, 1965; Lorge, Tuckman, & Dunn, 1954; Wagner & Schubert, 1955; Witkin, Machover, & Wapner, 1954). These scales have attempted to segregate drawings into categories on the basis of both *specific* criteria (elements, units, details) as well as *general* criteria (esthetic, impressionistic) which are related to a progression of standardizable grades of drawing skill. Some of these scales have been based on large populations, while others are confined to specific study groups. Some scales have presupposed rough percentile distribution in their instructions to raters, whereas others have permitted a more empirical distribution. Some have sought to tighten scalar classification through elimination of "extremely good" and "extremely poor" drawings. All, however, have attempted to standardize artistic skill to allow clinicians and researchers to report with more validity on a variety of research variables. A succession of researchers have recently employed some quality of drawing scale to clarify their findings (e.g., Cressen, 1975; Eysenck, Russel, & Eysenck, 1970; Manganyi, 1972; Parvathi, 1973). In attempts to enhance validity, several studies have used factor analytic techniques involving quality of drawing as well as other variables in an effort to arrive at sounder interpretations and conclusions (Adler, 1970; Carlson, Quinlan, Tucker, & Harrow, 1973;



Marais & Strumpfer, 1965; Nichols & Strumpfer, 1962; Strumpfer, 1959). These studies generally found quality of drawing to be a major, if not the overwhelming, factor affecting observations and judgments of artistic productions.

The purpose of the present study is to report on the effect of the super-imposition of a quality of drawing factor on the data obtained in a previously published study (Johnson, 1972). The addition of a quality variable permits us to add a further piece of evidence to the literature assessing whether drawings can be generally accepted as serving a projective function independent of the subject's artistic skill. The past study sought to differentiate the figure drawings of 32 convalescing poliomyelitis patients and their carefully matched controls through the use of quantified measures of figure drawing size, completeness, and movement. While the literature suggested that such figure drawing measures would reflect disability, subjects were not found to isomorphically represent their disabilities in their pictures. Overall, drawings were not predictably related to incapacity.

Assuming the drawings of disabled and nondisabled groups can be shown to be equal in quality, superimposition of a quality factor allows for the evaluation of three competing hypotheses:

1. Size, completeness, and movement measures on the figures drawn will significantly differentiate disabled and nondisabled subjects. Confirmation of this hypothesis could be viewed as evidence for the primacy of psychological state and projective mechanisms in determining productions on the DAP. As noted above, this hypothesis was not supported in a previous look at these data using a different perspective and statistical methodology.
2. Quality of drawing will interact significantly with disability status so that psychological state is reflected only in the drawings of those subjects rendering high quality productions. In essence this hypothesis states that drawings can be taken as a representation of disability and psychological state only in those subjects who are able to produce drawings of high quality.
3. Measures of size, completeness, and movement will differentiate only high

and low quality drawings and not disability status. Confirmation of this hypothesis would be an argument against the projective potential of the test and an indicator of the overwhelming nature of psychomotor factors in artistic productions.

### *Method*

#### *Subjects*

Drawings from 32 convalescing poliomyelitis patients were collected, along with 32 drawings from carefully matched controls. The experimental group consisted of 15 permanently paralyzed subjects and 17 poliomyelitis patients who had regained enough muscular power to be classified as "functionally recovered." There were 15 males and 17 females in the group with ages ranging from 18-53 (mean age = 30.4). Twenty-six were married; all but four had children at home. Mean education level was 12.6 years. The control group of 32 nondisabled subjects were matched for age ( $\pm 3$  years), sex, marital status, education ( $\pm 2$  years), occupation and locality (urban vs. rural).

#### *Procedure*

Each subject was given an 8 $\frac{1}{2}$  by 11-inch sheet of unlined white paper along with a black felt-tipped pen. The subject was instructed to draw a picture of a person in a bathing suit. While some subjects required slight verbal encouragement to begin drawing, none were given direction about what to draw. There was no time limit set for the test. Subjects were told to draw a person in a bathing suit since there was particular interest in the detailed articulation of extremities, which could easily be rendered ambiguous or indefinable in a conventionally clothed drawing by an amateur.

#### *Measures*

Objective measures of size, completeness, and movement were made on each of the drawings. In addition, four raters—three psychologists and one psychiatrist independently ranked the drawings for quality.<sup>1</sup>

The overall size was obtained (in millimeters) by taking the most distant lower and upper points of the drawing and

<sup>1</sup> Full and detailed instructions for scoring are available in mimeographed form from the authors.



projecting parallel lines at right angles to the axis of the body. The height of the figure was then measured on the line between these extremes. Measurements were made with a compass to enhance precision. Size was also recorded for head, neck, trunk, and extremities.

The completeness of each figure was scored on the basis of the inclusion of the following details in five body regions:

1. Head — eyes, ears, nose, mouth, hair, eyebrows.

2. Neck — the neck itself.

3. Trunk — breasts, navel.

4. Upper extremity — arm, elbow, forearm, hand, fingers.

5. Lower extremity — thighs, knees, legs, feet, toes.

Completeness was also scored in terms of the continuity of the outside perimeter of the drawing.

In scoring movement, a physiologically neutral position of a body part was considered to be zero degrees of movement. Variations from this neutral position were carefully measured in degrees through use of a protractor.

Quality of drawing was ascertained by instructing the four raters to rank order all 64 drawings on the basis of quality. They were told they could base their judgments on any criteria they thought suitable such as proportionality, sense of naturalness, size, completeness or global esthetic considerations. Judges were also asked to divide the 64 drawings into five categories (independent of their previous rankings) on the basis of what they felt were natural groupings of similar degrees of overall artistic skill. No percentile quotas for the various categories were set. All ratings were done independently and without supervision. While blind to the experimental or control status of each drawing, all raters were aware that some of the drawings had come from a disabled population.

### Design

The study was conducted within the framework of a  $2 \times 2$  analysis of variance design; the two factors being quality of drawing (high vs. low) and disability status (disabled vs. normal controls). Analyses compared the subjects on 17 different measures of drawing size, comple-

Table 1  
Rank Order Correlations  
Between Judges' Quality Rankings

Judges	1	2	3	4
1		.93*	.89*	.84*
2			.89*	.86*
3				.78*
4				

Note. Average rank order coefficient between judges = .87.

\*  $p < .001$ .

tion, and movement that might be assumed on the basis of the literature to reflect the subjects' projections of disability.

### Results

Initial comparisons were made on the quality of drawing data obtained from the four judges. Rank order correlations were used to compare the rankings of all judges and the results of those analyses are presented in Table 1.

As can be seen all ranking correlations between judges were found to be highly significant ( $p < .001$ ). The average rank order correlation between judges was .87. The interrater reliability in terms of the five artistic skill grade categories was also examined. Pearson product moment correlations were computed between all possible pairs of judges. Correlations ranged from .74 to .88 with an average correlation of .83 (all  $ps < .001$ ). Results thus revealed that the drawings could be ranked for quality or artistic skill in a highly reliable fashion.

An average ranking across all judges was obtained for each drawing. The 64 drawings were then split at the median into high and low quality groupings for purposes of the analyses of variance.

To insure that there were no differences in the quality of drawings produced by the disabled and nondisabled groups, a Chi-square analysis was used to assess whether the groups differed in the number of drawings falling into the high and low

Table 2

*F* Values from 2x2 Matrix Examining Mean Differences Between High Quality-Low Quality Drawings and Disabled-Nondisabled Subjects

Data From Draw-A-Person	Quality of Drawing High vs. Low	Disability Variable Disabled vs. Control	Interaction
<b>SIZE</b>			
Head	4.34*	3.92	.04
Trunk	6.90*	.36	.06
<b>Extremities</b>			
Right Upper	15.60****	2.66	3.50
Left Upper	32.86****	1.08	3.85
Right Lower	13.40****	.43	.02
Left Lower	16.85****	.19	.11
Total Size	10.50***	.94	.08
<b>COMPLETION</b>			
Head-neck	9.00***	2.53	.29
Trunk	6.07*	.01	.40
Upper Extremity	26.15****	.48	.01
Lower Extremity	10.22****	2.10	.40
<b>MOVEMENT</b>			
<b>Extremities</b>			
Right Upper	.06	.38	1.32
Left Upper	.00	4.48*	.14
Right Lower	3.67	.00	.00
Left Lower	7.47**	.88	1.82
Total Upper	.02	2.38	.18
Total Lower	6.80*	.23	.59

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .005$ .

\*\*\*\*  $p < .001$ .

quality categories. This analysis revealed no significant difference ( $\chi^2 = 1.56$ ,  $df = 1$ , N.S.). Thirteen drawings from the experimental group ranked in the high quality category and 19 ranked in the low quality category. The controls placed 19 in the high quality category and 13 in the low

quality category.

A series of analyses of variance were then used to compare the subjects on 17 different measures of drawing size, completion and movement. Table 2 presents the *F* values obtained in those analyses.

Results showed that quality of draw-

ing was a significant factor in 13 of the 17 comparisons while disability status was significant in only one of 17 comparisons. There were no significant interactions.

### Discussion

The results clearly reaffirm that a quality of drawing factor can be readily and reliably rated in human figure drawings. Furthermore, the findings strongly support the idea that quality factors may at times be the overwhelming determinants of judgments made about figure drawings. The results of the study would seem to be especially convincing since the investigation was based upon "real" physical disability variables present in the experimental population and absent in the control subjects.

No evidence was found in this study for the primacy of projective mechanisms in determining productions on the DAP. In addition, the degree to which disabled subjects were able to project their disability was not related to levels of artistic skill. High quality drawings were no more revealing of the subjects' physical disability status than were low quality drawings. Ability, therefore, did not favor the projection of attitudes, motivations, or body image.

It seems reasonable to conclude on the basis of the present study that the experimental or clinical use of figure drawings must methodologically take into account factors relating to quality of drawing. This conclusion is congruent with a number of the previously cited studies employing either factorial modes of analysis or utilizing various scales to evaluate drawing skill.

Overall, we must conclude that simplified analysis of figure drawings for clinical or experimental purposes is hazardous. Factors of differential abilities in eye-hand coordination and practice in drawing seem exceedingly relevant to the type of figure portrayed by any subject. Efforts to "psychologize" these experiential, learned, and habitual factors have undoubtedly accounted for some of the disparities in results reported in the literature.

### References

- Adler, P. T. Evaluation of the figure drawing technique. *Journal of Consulting and Clinical Psychology*, 1970, 35, 52-57.
- Albee, G. W. & Hamlin, R. M. An investigation of the reliability and validity of judgments of adjustment inferred from drawings. *Journal of Clinical Psychology*, 1949, 5, 389-392.
- Apfeldorf, M., Randolph, J. J., & Whitman, G. L. Figure drawing correlates of furlough utilization in an aged institutionalized population. *Journal of Projective Techniques & Personality Assessment*, 1963, 27, 158-165.
- Bielauskas, V. J., & Bristow, R. B. The effect of formal art training upon the quantitative scores of the H-T-P drawings. *Journal of Clinical Psychology*, 1959, 16, 334-335.
- Carlson, K., Quinlan, D., Tucker, G. & Harrow, M. Body disturbance and sexual elaboration factors in figure drawings of schizophrenic patients. *Journal of Personality Assessment*, 1973, 37, 56-63.
- Cassel, R. H., Johnson, A., & Burns, W. H. Examiner, ego defense, and the H-T-P Test. *Journal of Clinical Psychology*, 1958, 14, 157-160.
- Craddick, R. A., Leipold, W. D., & Cacavas, P. D. The relationship of shading on the Draw-A-Person Test to Manifest Anxiety scores. *Journal of Consulting Psychology*, 1962, 25, 193.
- Cressen, R. Artistic quality of drawings and judges' evaluations of the DAP. *Journal of Personality Assessment*, 1975, 39, 132-137.
- Eysenck, S. B., Russel, T., & Eysenck, H. J. Extroversion, intelligence, and ability to draw a person. *Perceptual and Motor Skills*, 1970, 30, 925-926.
- Fisher, S., & Fisher, R. L., Test of certain assumptions regarding figure drawing analysis. *Journal of Abnormal and Social Psychology*, 1950, 45, 727-732.
- Gasorek, K. A. A study of the consistency and the reliability of certain of the formal and structural characteristics of children's drawings. Unpublished doctoral dissertation, Columbia University, 1951.
- Goodenough, F. L. *Measurement of intelligence by drawings*. New York: Harcourt, Brace & World, 1926.
- Goodenough, F. L., & Harris, D. B. Studies in the psychology of children's drawings: II 1928-1949. *Psychological Bulletin*, 1950, 47, 369-433.
- Grams, A., & Rinder, L. Signs of homosexuality in human figure drawings. *Journal of Consulting Psychology*, 1958, 22, 394.
- Harris, D. B. *Children's drawings as measures of intellectual maturity*. New York: Harcourt, Brace, & World, 1963.
- Harris, D. B. The Draw-A-Person. In O. K. Bureau (Ed.), *Seventh mental measurements yearbook*. Vol. I. Highland Park, N. J.: Gryphon, 1972.
- Johnson, F. A. Figure drawings in subjects recovering from poliomyelitis. *Psychosomatic Medicine*, 1972, 34, 19-29.

- Kellogg, R. *What children scribble and why*. San Francisco: Author, 570 Union St., 1955.
- Klopfer, W. & Taulbee, E. Projective tests. *Annual Review of Psychology*, 1976, 27, 543-567.
- Lehner, G. F. J., & Gunderson, E. K. Height relationships on the Draw-A-Person Test. *Journal of Personality*, 1953, 21, 392-399.
- Lewinsohn, P. M. Psychological correlates of overall quality of figure drawings. *Journal of Consulting Psychology*, 1965, 29, 504-512.
- Lorge, I., Tuckman, J., & Dunn, M. B. Human figure drawings by younger and older adults. *Journal of Clinical Psychology*, 1958, 14, 54-56.
- Lowenfeld, V. *Creative and mental growth* (3rd ed.). New York: Macmillan, 1957.
- Machover, K. *Personality projection in the drawing of the human figure*. Springfield, Ill.: Thomas, 1949.
- Manganyi, N. C. Body image boundary differentiation and self steering behavior in African paraplegics. *Journal of Personality Assessment*, 1972, 36, 45-49.
- Marais, H. C., & Strumpfer, D. J. W. DAP body image disturbance scale and quality of drawing. *Perceptual and Motor Skills*, 1965, 21, 196.
- Nichols, R. C., & Strumpfer, D. J. W. A factor analysis of Draw-A-Person test scores. *Journal of Consulting Psychology*, 1962, 26, 156-161.
- Parvathi, S. A study of the relationship of artistic aptitude with scores on the Draw-a-Man test. *Journal of Psychological Researches*, 1973, 17, 64-67.
- Roback, H. B. Human figure drawings: Their utility in the clinical psychologist's armamentarium for personality assessment. *Psychological Bulletin*, 1968, 70, 1-19.
- Sherman, L. J. The influence of artistic quality on judgments of patient and nonpatient status from human figure drawings. *Journal of Projective Techniques*, 1958, 22, 338-340. (a)
- Sherman, L. J. Sexual differentiation or artistic ability? *Journal of Clinical Psychology*, 1958, 14, 170-171. (b)
- Stoltz, R. E., & Coltharp, F. C. Clinical judgments and the Draw-A-Person Test. *Journal of Consulting Psychology*, 1961, 25, 43-45.
- Strumpfer, D. J. W. *A study of some communicable measures for the evaluation of human figure drawings*. Unpublished doctoral dissertation, Purdue University, 1959.
- Strumpfer, D. J. W. The relation of Draw-A-Person Test variables to age and chronicity in psychotic groups. *Journal of Clinical Psychology*, 1963, 19, 208-211.
- Sundberg, N. The practice of psychological testing in clinical services throughout the United States. *American Psychologist*, 1961, 16, 79-83.
- Swenson, C. H. Empirical evaluations of human figure drawings. *Psychological Bulletin*, 1957, 54, 431-466.
- Swenson, C. H. Empirical evaluations of human figure drawings: 1957-1966. *Psychological Bulletin*, 1968, 70, 20-44.
- Wagner, M. E., & Schubert, H. J. P. *DAP quality scale for late adolescents and young adults*. Kenmore, N. Y.: Delaware Letter Shop, 1955.
- Watson, C. G. Interjudge agreement of Draw-A-Person diagnostic impressions. *Journal of Projective Techniques & Personality Assessment*, 1967, 31, 42-45.
- Whitmyre, J. W. The significance of artistic excellence in the judgment of adjustment inferred from human figure drawings. *Journal of Consulting Psychology*, 1953, 17, 421-422.
- Witkin, E. (Ed.), *Personality through perception*. New York: Harper
- Witkin, H. A., Machover, K., & Wapner, S. The Figure Drawing Test. In Murphy, E. (Ed.), *Personality through perception*. New York: Harper, 1954.
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## Bibliography of Short Forms of the MMPI

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Although the need for an abbreviated form of the MMPI has apparently existed since its inception 35 years ago, there have been surprisingly few attempts until recently to shorten it. Initial attempts suffered from numerous difficulties either in rationale, design, or execution. In most cases, the validity and reliability were either undetermined, unreported, or unsatisfactory. Often, no proper assessment of contextual effects were made and the data were not presented in a form that could be readily compared to the extensive MMPI literature (Hugo, 1971).

Impetus to developing an abbreviated form was rejuvenated by Kincannon's (1968) 71-item form entitled the Mini-Mult. Shortly thereafter came Dean's (1972) 86-item Midi-Mult, Hugo's (1971) 173-item Short Form, Faschingbauer's (1974) 166-item abbreviated MMPI, Overall and Gomez-Mont's (1974) MMPI-168, Spera and Robertson's (1974) 104-item Maxi-Mult, and McLachlan's (1974) 94-item Maxi-Mult.

Accompanying the development of these short forms has been a plethora of investigations assessing the practical utility of each instrument. These results are reviewed in a recent book by Faschingbauer and Newmark (1978) entitled *Short Forms of the MMPI*. Examination of their comprehensive, but already somewhat outdated, reference list indicated that the title of the article usually does not provide sufficient information regarding which short forms are evaluated. That is, many of the references only mention comparing short forms of the MMPI with a variety of populations. The purpose of the following bibliography is to clarify and to list references as a function of each short form with the subsequent result that there are numerous repeated references.

### MINI-MULT

- Armentrout, J. A. Correspondence of the MMPI and Mini-Mult in a college population. *Journal of Clinical Psychology*, 1970, 26, 493-495.
- Armentrout, J. A., & Rouzer, D. L. Utility of the Mini-Mult with delinquents. *Journal of Consulting and Clinical Psychology*, 1970, 34, 450.
- Bassett, J. E., Schellman, G. C., Gayton, W. F., & Tavormina, J. Efficacy of the Mini-Mult validity scales with prisoners. *Journal of Clinical Psychology*, 1977, 33, 729-731.
- Bolton, B. A brief instrument for assessing psychopathology in rehabilitation clients. Arkansas Rehabilitation Research and Training Center Report, University of Arkansas, 1975.
- Bolton, B. Development of homogeneous subscales for the Mini-Mult. Paper presented at the meeting of the Southwestern Psychological Association, Houston, 1975.
- Bolton, B. Homogeneous subscales for the Mini-Mult. *Journal of Consulting and Clinical Psychology*, 1976, 44, 684.
- Butcher, J., Clavelle, P., & Hoffmann, N. Clinical limitations of MMPI short forms and a strategy for developing a tailor-made MMPI short form. Paper presented at the meeting of the American Psychological Association, New Orleans, 1974.
- Castro, G. A., & Quesada, H. A. Mini-Mult: An abbreviated form of the Minnesota Multiphasic Personality Inventory. *Acta Psiquiatrica y Psicologica Americana Latina*, 1971, 17, 12-18.
- Edinger, J. D., Kendall, P. C., Hooke, J. F., & Brogan, J. B. The predictive efficacy of three MMPI short forms. *Journal of Personality Assessment*, 1976, 40, 259-265.
- Faschingbauer, T. R. Some clinical considerations in selecting a short form of the MMPI. *Professional Psychology*, 1976, 7, 167-176.

- Faschingbauer, T. R. Substitution and regression models, base rates and the clinical validity of the Mini-Mult. *Journal of Clinical Psychology*, 1976, 32, 70-74.
- Faschingbauer, T. R., Conger, A., Johnson, D., & Neville, C. New conversion values for the Mini-Mult. Paper presented at the meeting of the Southeastern Psychological Association, Hollywood, Florida, 1974.
- Faschingbauer, T. R., & Newmark, C. S. *Short forms of the MMPI*. Lexington, Mass.: D. C. Heath & Co., 1978.
- Fillenbaum, G. G., & Pfeiffer, E. The Mini-Mult: A cautionary note. *Journal of Consulting and Clinical Psychology*, 1976, 44, 698-703.
- Finch, A. J., Jr., Edwards, G. L., & Griffin, J. L., Jr. Utility of the Mini-Mult with parents of emotionally disturbed children. *Journal of Personality Assessment*, 1975, 39, 146-150.
- Gaines, L. S., Abrams, M. H., Toel, P., & Miller, L. M. Comparison of the MMPI and the Mini-Mult with alcoholics. *Journal of Consulting and Clinical Psychology*, 1974, 42, 619.
- Gayton, W. F., Bishop, J. S., Citrin, M. M., & Bassett, J. S. An investigation of the Mini-Mult validity scales. *Journal of Personality Assessment*, 1975, 39, 511-513.
- Gayton, W. F., Fogg, M. E., Tavormina, J., Bishop, J. S., Citrin, M. M., & Bassett, J. S. Comparison of the MMPI and Mini-Mult with women who request abortion. *Journal of Clinical Psychology*, 1976, 32, 648-650.
- Gayton, W. F., Ozmon, K. L., & Wilson, W. T. Investigation of a written form of the Mini-Mult. *Psychological Reports*, 1972, 30, 275-278.
- Gayton, W. F., & Wilson, W. T. Utility of the Mini-Mult in a child guidance clinic setting. *Journal of Personality Assessment*, 1971, 35, 569-575.
- Hartford, T., Lubetkin, B., & Alpert, G. Comparison of the standard MMPI and the Mini-Mult in a psychiatric outpatient clinic. *Journal of Consulting and Clinical Psychology*, 1972, 39, 243-245.
- Hartman, G., & Robertson, M. Comparison of the Mini-Mult and the MMPI in a community mental health agency. Paper presented at the meeting of the American Psychological Association, Honolulu, September, 1972.
- Hedberg, A. G., Campbell, L. M., Weeks, S. R., & Powell, J. A. The use of the MMPI (Mini-Mult) to predict alcoholics' response to a behavioral treatment program. *Journal of Clinical Psychology*, 1975, 31, 271-274.
- Hedlund, J. L., Powell, B. J., & Won Cho, D. The use of MMPI short forms with psychiatric patients. Paper presented at the meeting of the American Psychological Association, New Orleans, 1974.
- Hedlund, J. L., Won Cho, D., & Powell, B. J. Use of MMPI short forms with psychiatric patients. *Journal of Consulting and Clinical Psychology*, 1975, 43, 924.
- Hobbs, T. R. Scale equivalence and profile similarity of the Mini-Mult and MMPI in an outpatient clinic. *Journal of Clinical Psychology*, 1974, 30, 349-350.
- Hobbs, T. R., & Fowler, R. D. Reliability and scale equivalence of the Mini-Mult and MMPI. *Journal of Consulting and Clinical Psychology*, 1974, 42, 89-92.
- Hoffman, N. G., & Butcher, J. N. Clinical limitations of three Minnesota Multiphasic Personality Inventory short forms. *Journal of Consulting and Clinical Psychology*, 1975, 43, 32-39.
- Huisman, R. E. Correspondence between Mini-Mult and standard MMPI scale scores in patients with neurologic disease. *Journal of Consulting and Clinical Psychology*, 1974, 42, 149.
- Jabara, R. F., & Curran, S. F. Comparison of the Minnesota Multiphasic Personality Inventory and Mini-Mult with drug users. *Journal of Consulting and Clinical Psychology*, 1974, 42, 739-740.
- Kincannon, J. C. An investigation of the feasibility of adopting a personality inventory for use in the mental status exam. (Doctoral dissertation, University of Minnesota, 1967). *Dissertation Abstracts International*, 1967, 28, 2625B. (University Microfilms No. 67-16, 250).
- Kincannon, J. C. Prediction of the standard MMPI scale scores from 71 items: The Mini-Mult. *Journal of Consulting and Clinical Psychology*, 1968, 32, 319-325.
- Lacks, P. B. Further investigation of the Mini-Mult. *Journal of Consulting and Clinical Psychology*, 1970, 35, 126-127.
- Lacks, P. B., & Powell, B. J. The Mini-Mult as a personal screening technique: A preliminary report. *Psychological Reports*, 1970, 27, 909-910.
- Mlott, S. R. The Mini-Mult and its use with adolescents. *Journal of Clinical Psychology*, 1973, 29, 376-377.

- Newmark, C. S. *Clinical use of the MMPI short forms*. Paper presented at the 12th annual MMPI Workshop, St. Petersburg, Florida, February, 1977.
- Newton, J. R. A comparison of studies of the Mini-Mult. *Journal of Clinical Psychology*, 1971, 27, 489-490.
- Ogilvie, L. P., Kotin, J., & Stanley, D. H. Comparison of the MMPI and the Mini-Mult in a psychiatric outpatient clinic. *Journal of Consulting and Clinical Psychology*, 1976, 44, 497-498.
- Palmer, A. B. A comparison of the MMPI and Mini-Mult in a sample of state mental hospital patients. *Journal of Clinical Psychology*, 1973, 29, 484-485.
- Pantano, L. T., & Schwartz, N. L. Differentiation of neurologic and pseudo-neurologic patients with combined MMPI Mini-Mult and pseudo-neurologic scale. *Journal of Clinical Psychology*, 1978, 34, 56-60.
- Percell, L. P., & Delk, J. L. Relative usefulness of three forms of the Mini-Mult with college students. *Journal of Consulting and Clinical Psychology*, 1973, 40, 487.
- Platt, J. J., & Scura, W. C. Validity of the Mini-Mult with male reformatory inmates. *Journal of Clinical Psychology*, 1972, 28, 528-529.
- Poythress, N. G., & Blaney, P. H. The validity of MMPI interpretations based on the Mini-Mult and the FAM. *Journal of Personality Assessment*, 1978, 42, 143-147.
- Pulvermacher, G. D., & Bringmann, W. G. The Mini-Mult used with French-Canadian college students. *Psychological Reports*, 1971, 29, 134.
- Rand, S. W. *A comprehensive validation of the expanded Mini-Mult*. Unpublished Master's Thesis, University of Miami, 1976.
- Rybolt, G. A., & Lambert, J. A. Correspondence of the MMPI and Mini-Mult with psychiatric inpatients. *Journal of Clinical Psychology*, 1975, 31, 279-281.
- Scott, N. A., Mount, M. K., & Costers, S. A. Correspondence of the MMPI and Mini-Mult among female reformatory inmates. *Journal of Clinical Psychology*, 1976, 32, 795-797.
- Simono, R. B. Comparison of the standard MMPI and the Mini-Mult in a university counseling center. *Education and Psychological Measurement*, 1975, 35, 401-404.
- Streiner, D. L., Woodward, C. W., Goodman, J. T., & McLean, A. Comparisons of the MMPI and Mini-Mult. *Canadian Journal of Behavioral Science*, 1973, 5, 76-82.
- Taulbee, E. S., & Samelson, J. Mini-Mult vs. MMPI. *Journal of Personality Assessment*, 1974, 38, 479.
- Taulbee, E. S., & Wright, H. W. Mini-Mult vs. MMPI. *Journal of Personality Assessment*, 1972, 36, 590.
- Thornton, L. S., Finch, A. J., & Griffin, J. L. The Mini-Mult with criminal and psychiatric patients. *Journal of Personality Assessment*, 1975, 39, 394-396.
- Trybus, R. J., & Hewitt, C. W. The Mini-Mult in a nonpsychiatric population. *Journal of Clinical Psychology*, 1972, 28, 371.
- Tsushima, W. T. Relationship between the Mini-Mult and the MMPI with medical patients. *Journal of Clinical Psychology*, 1975, 31, 673-675.
- Umansky, D. S. *Another look at the Mini-Mult*. Unpublished Master's Thesis, Eastern Michigan University, 1972.

## MIDI-MULT

- Dean, E. F. A lengthened Mini: The Midi-Mult. *Journal of Clinical Psychology*, 1972, 28, 68-71.
- Faschingbauer, T. R. Some clinical considerations in selecting a short form of the MMPI. *Professional Psychology*, 1976, 7, 167-176.
- Faschingbauer, T. R., & Newmark, C. S. *Short forms of the MMPI*. Lexington, Mass.: D. C. Heath & Co., 1978.
- Gilroy, F. D., & Steinbacher, R. Extension of the Midi-Mult to a college population. *Journal of Personality Assessment*, 1973, 37, 263-266.
- Griffin, J. L., Finch, A. L., Edwards, D. L., & Kendall, P. C. MMPI Midi-Mult correspondence with parents of emotionally disturbed children. *Journal of Clinical Psychology*, 1976, 32, 54-56.
- Mlott, S. R., & Mason, R. L. The practicality of using an abbreviated form of the MMPI with chronic renal dialysis patients. *Journal of Clinical Psychology*, 1975, 31, 65-68.
- Newmark, C. S. *Clinical use of the MMPI short forms*. Paper presented at the 12th annual MMPI Workshop, St. Petersburg, Florida, February, 1977.
- Newmark, C. S. *Comparing abbreviated MMPIs within a psychiatric population*. Paper presented at the American Psychological Association Meeting, New Orleans, September, 1974.
- Newmark, C. S., Cook, L., & Greer, W. Application of the Midi-Mult to psychiatric



- inpatients. *Journal of Clinical Psychology*, 1973, 29, 481-484.
- Newmark, C. S., Newmark, L., & Faschingbauer, T. R. Utility of three abbreviated MMPIs with psychiatric outpatients. *Journal of Nervous and Mental Disease*, 1974, 159, 438-443.
- Newmark, C. S., Owen, M., Newmark, L., & Faschingbauer, T. R. Comparison of three abbreviated MMPIs for psychiatric patients and normals. *Journal of Personality Assessment*, 1975, 39, 261-270.
- Poythress, N. G. Selecting a short form of the MMPI: Addendum to Faschingbauer. *Journal of Consulting and Clinical Psychology*, 1978, 46, 331-334.
- Streiner, D. L., Goodman, J. T., & McClean, A. Correspondence between the MMPI and the Midi-Mult. *Psychological Reports*, 1977, 40, 551-554.
- Turner, J., & McCreary, C. Short forms of the MMPI with back pain patients. *Journal of Consulting and Clinical Psychology*, 1978, 46, 354-355.
- FASCHINGBAUER ABBREVIATED MMPI (FAM)**
- Butcher, J., Clavell, P., & Hoffman, N. *Clinical limitations of MMPI short forms and a strategy for developing a tailor-made MMPI short form*. Paper presented at the meeting of the American Psychological Association, New Orleans, 1974.
- Edinger, J. D., Kendall, P. C., Hooke, J. F., Brogan, J. B. The predictive efficacy of three MMPI short forms. *Journal of Personality Assessment*, 1976, 40, 259-265.
- Faschingbauer, T. R. A short written form of the group MMPI. (Doctoral dissertation, University of North Carolina, 1972). *Dissertation Abstracts International*, 1973, 34, 409B. (University Microfilms No. 73-16, 469).
- Faschingbauer, T. R. A 166-item short form of the group MMPI: The FAM. *Journal of Consulting and Clinical Psychology*, 1974, 42, 645-655.
- Faschingbauer, T. R. Some clinical considerations in selecting a short form of the MMPI. *Professional Psychology*, 1976, 7, 167-176.
- Faschingbauer, T. R., Johnson, D. T., & Newmark, C. S. Interpretative validity of the FAM: Long-term psychotherapists' ratings of psychiatric inpatients. *Journal of Personality Assessment*, 1978, 42, 74-76.
- Faschingbauer, T. R., & Newmark, C. S. *Short forms of the MMPI*. Lexington, Mass.: D. C. Heath & Co., 1978.
- Finch, A. J., Kendall, P. D., Nelson, W. M., & Newmark, C. S. Application of Faschingbauer's abbreviated MMPI to parents of emotionally disturbed children. *Psychological Reports*, 1975, 37, 571-574.
- Freeman, C., Calsyn, D., & O'Leary, M. Application of Faschingbauer's abbreviated MMPI with medical patients. *Journal of Consulting and Clinical Psychology*, 1977, 45, 706-707.
- Freeman, C. W., O'Leary, M., & Calsyn, D. Application of the Faschingbauer abbreviated MMPI with alcoholic patients. *Journal of Clinical Psychology*, 1977, 33, 303-306.
- Hoffmann, H. G., & Butcher, J. N. Clinical limitations of three Minnesota Multiphasic Personality Inventory short forms. *Journal of Consulting and Clinical Psychology*, 1975, 43, 32-39.
- Newmark, C. S. *Clinical use of the MMPI short forms*. Paper presented at the 12th annual MMPI Workshop, St. Petersburg, Florida, February, 1977.
- Newmark, C. S. *Comparing abbreviated MMPIs within a psychiatric population*. Paper presented at the American Psychological Association Meeting, New Orleans, September, 1974.
- Newmark, C. S., Boas, B., & Messerry, T. An abbreviated MMPI for use with college students. *Psychological Reports*, 1974, 34, 631-634.
- Newmark, C. S., Conger, A. J., and Faschingbauer, T. R. The interpretive validity and effective test length functioning of an abbreviated MMPI relative to the standard MMPI. *Journal of Clinical Psychology*, 1976, 32, 27-32.
- Newmark, C. S., Cook, L., Clarke, M., & Faschingbauer, T. Application of Faschingbauer's abbreviated MMPI to psychiatric inpatients. *Journal of Consulting and Clinical Psychology*, 1973, 41, 416-421.
- Newmark, C. S., Falk, R., & Finch, A. J. Interpretive accuracy of abbreviated MMPIs. *Journal of Personality Assessment*, 1976, 40, 266-268.
- Newmark, C. S., Galen, R., & Gold, K. Efficacy of an abbreviated MMPI as a function of type of administration. *Journal of Clinical Psychology*, 1975, 31, 639-642.
- Newmark, C. S., & Glenn, L. Sensitivity of the Faschingbauer abbreviated MMPI to hospitalized adolescents. *Journal of Abnormal Child Psychology*, 1974, 2, 299-306.



- Newmark, C. S., Newmark, L., & Faschingbauer, T. R. Utility of three abbreviated MMPIs with psychiatric outpatients. *Journal of Nervous and Mental Disease*, 1974, 159, 438-443.
- Newmark, C. S., Owen, M., Newmark, L., & Faschingbauer, T. R. Comparison of three abbreviated MMPIs for psychiatric patients and normals. *Journal of Personality Assessment*, 1975, 39, 261-270.
- Newmark, C. S., Ziff, D. R., Finch, A. J., & Kendall, P. C. Comparing the empirical validity of the standard form with two abbreviated MMPIs. *Journal of Consulting and Clinical Psychology*, 1978, 46, 53-61.
- Poythress, N. G. Selecting a short form of the MMPI: Addendum to Faschingbauer. *Journal of Consulting and Clinical Psychology*, 1978, 46, 331-334.
- Poythress, N. G., & Blaney, P. H. The validity of MMPI interpretations based on the Mini-Mult and the FAM. *Journal of Personality Assessment*, 1978, 42, 143-147.
- Turner, J., & McCreary, C. Short forms of the MMPI with back pain patients. *Journal of Consulting and Clinical Psychology*, 1978, 46, 354-355.
- Walls, R., McGlynn, S. D., & Tingstrom, D. H. An evaluation of three short forms extracted from the group form MMPI responses of incarcerated offenders. *Journal of Clinical Psychology*, 1977, 33, 431-435.
- MMPI-168**
- Butcher, J., Clavelle, P., & Hoffmann, N. *Clinical limitations of MMPI short forms and a strategy for developing a tailor-made MMPI short form*. Paper presented at the meeting of the American Psychological Association, New Orleans, 1974.
- Calsyn, D. A., Spengler, D. N., & Freeman, C. W. Application of the somatization factor of the MMPI-168 with low back pain patients. *Journal of Clinical Psychology*, 1977, 33, 1017-1020.
- Erickson, R. C., & Freeman, C. Using the MMPI-168 with medical patients. *Journal of Clinical Psychology*, 1976, 32, 803-805.
- Erickson, R. C., & O'Leary, N. Use of the MMPI-168 with alcoholics. *Journal of Clinical Psychology*, 1977, 33, 133-135.
- Faschingbauer, T. R., & Newmark, C. S. *Short forms of the MMPI*. Lexington, Mass.: Heath, 1978.
- Hedlund, J. L., Powell, B. J., & Won Cho, D. *The use of MMPI short forms with psychiatric patients*. Paper presented at the meeting of the American Psychological Association, New Orleans, 1974.
- Hedlund, J. L., Won Cho, D., & Powell, B. J. Use of the MMPI short forms with psychiatric patients. *Journal of Consulting and Clinical Psychology*, 1975, 43, 924.
- Hedlund, J. L., Won Cho, D., & Wood, J. D. Comparative validity of the MMPI-168 factors and clinical scales. *Multivariate Behavioral Research*, 1977, 12, 327-330.
- Hedlund, J. L., Won Cho, D., & Wood, J. D. MMPI-168 factor structure: A replication with public mental health patients. *Journal of Consulting and Clinical Psychology*, 1977, 45, 711-712.
- Hoffman, N. G., & Butcher, J. N. Clinical limitations of three Minnesota Multiphasic Personality Inventory short forms. *Journal of Consulting and Clinical Psychology*, 1975, 43, 32-39.
- Hunter, S., Overall, J. E., & Butcher, J. N. Factor structure of the MMPI-168 in a psychiatric population. *Multivariate Behavioral Research*, 1974, 9, 283-302.
- Newmark, C. S. *Clinical use of the MMPI short forms*. Paper presented at the 12th annual MMPI Workshop, St. Petersburg, Florida, February, 1977.
- Newmark, C. S., Falk, R., & Finch, A. J. Interpretive accuracy of abbreviated MMPIs. *Journal of Personality Assessment*, 1976, 40, 266-268.
- Newmark, C. S., & Finch, A. J. Comparing the diagnostic validity of an abbreviated and standard MMPI. *Journal of Personality Assessment*, 1976, 40, 10-12.
- Newmark, C. S., Newmark, L. G., & Cook, L. The MMPI-168 with psychiatric patients. *Journal of Clinical Psychology*, 1975, 31, 61-64.
- Newmark, C. S., & Raft, D. Using an abbreviated MMPI as a screening device for medical patients. *Psychosomatics*, 1976, 17, 45-48.
- Newmark, C. S., Ziff, D. R., Finch, A. J., & Kendall, P. C. Comparing the empirical validity of the standard form with two abbreviated MMPIs. *Journal of Consulting and Clinical Psychology*, 1978, 46, 53-61.
- Overall, J. E., Butcher, J. N., & Hunter, S. Validity of the MMPI-168 for psychiatric screening. *Educational and Psychological Measurement*, 1975, 35, 516-528.
- Overall, J. E., & Gomez-Mont, F. The MMPI-168 for psychiatric screening. *Educational and Psychological Measurement*, 1974, 34, 315-319.
- Overall, J. E., Higgins, W., & DeSchweinitz, A. Comparison of differential diagnostic discrimination for abbreviated and stand-

- and MMPI. *Journal of Clinical Psychology*, 1976, 32, 237-245.
- Overall, J. E., Hunter, S., & Butcher, J. N. Factor structure of the MMPI-168 in a psychiatric population. *Journal of Consulting and Clinical Psychology*, 1973, 41, 284-286.
- Poythress, N. G. Selecting a short form of the MMPI: Addendum to Faschingbauer. *Journal of Consulting and Clinical Psychology*, 1978, 46, 331-334.
- Vincent, K. R. Validity of the MMPI-168 on private clinic subpopulations. *Journal of Clinical Psychology*, 1978, 34, 61-63.
- Walls, R., McGlynn, S. D., & Tingstrom, D. H. An evaluation of three short forms extracted from the group form MMPI responses of incarcerated offenders. *Journal of Clinical Psychology*, 1977, 33, 431-435.
- HUGO SHORT FORM**
- Edinger, J. D., Kendall, P. C., Hooke, J. F., & Brogan, J. B. The predictive efficacy of three MMPI short forms. *Journal of Personality Assessment*, 1976, 40, 259-265.
- Faschingbauer, T. R. Some clinical considerations in selecting a short form of the MMPI. *Professional Psychology*, 1976, 7, 167-176.
- Faschingbauer, T. R., & Newmark, C. S. *Short forms of the MMPI*. Lexington, Mass.: D. C. Heath & Co., 1978.
- Hugo, J. A. Abbreviation of the MMPI through multiple regression. (Doctoral dissertation, University of Alabama, 1971). *Dissertation Abstracts International*, 1971, 32, 1213B. (University Microfilms No. 71-20, 115).
- Newmark, C. S. *Clinical use of the MMPI short forms*. Paper presented at the 12th annual MMPI Workshop, St. Petersburg, Florida, February, 1977.
- Newmark, C. S. *Comparing abbreviated MMPIs within a psychiatric population*. Paper presented at the American Psychological Association Meeting, New Orleans, September, 1974.
- Newmark, C. S., Falk, R., & Finch, A. J. Interpretive accuracy of abbreviated MMPIs. *Journal of Personality assessment*, 1976, 40, 266-268.
- Newmark, C. S., Newmark, L., & Faschingbauer, T. R. Utility of three abbreviated MMPIs with psychiatric outpatients. *Journal of Nervous and Mental Disease*, 1974, 159, 438-443.
- Newmark, C. S., Owen, M., Newmark, L., & Faschingbauer, T. R. Comparison of three abbreviated MMPIs for psychiatric patients and normals. *Journal of Personality Assessment*, 1975, 39, 261-270.
- Poythress, N. G. Selecting a short form of the MMPI: Addendum to Faschingbauer. *Journal of Consulting and Clinical Psychology*, 1978, 46, 331-334.
- Walls, R., McGlynn, S. D., & Tingstrom, D. H. An evaluation of three short forms extracted from the group form MMPI responses of incarcerated offenders. *Journal of Clinical Psychology*, 1977, 33, 431-435.
- MAXI-MULT 104**
- Faschingbauer, T. R., & Newmark, C. S. *Short forms of the MMPI*. Lexington, Mass.: D. C. Heath & Co., 1978.
- Newmark, C. S. *Clinical use of the MMPI short forms*. Paper presented at the 12th annual MMPI Workshop, St. Petersburg, Florida, 1977.
- Spera, J., & Robertson, M. *A 104-item MMPI: The Maxi-Mult*. Paper presented at the meeting of the American Psychological Association, New Orleans, 1974.
- MAXI-MULT 94**
- Elsie, R. D., & McLachlan, J. F. C. Reliability of the Maxi-Mult and scale equivalence with the MMPI. *Journal of Clinical Psychology*, 1976, 32, 67-70.
- Faschingbauer, T. R., & Newmark, C. S. *Short forms of the MMPI*. Lexington, Mass.: Heath, 1978.
- McLachlan, J. F. C. A scale for the evaluation of psychological distress. *Journal of Clinical Psychology*, 1977, 33, 159-161.
- McLachlan, J. F. C. Test-retest stability of long and short form MMPI scales over two years. *Journal of Clinical Psychology*, 1974, 30, 189-191.
- Newmark, C. S. *Clinical use of the MMPI short forms*. Paper presented at the 12th annual MMPI Workshop, St. Petersburg, Florida, February, 1977.
- WORKSHOPS and SYMPOSIA**
- Symposium on short forms of the MMPI. Presented at the meeting of the American Psychological Association, New Orleans, September, 1974. (Participants: J. Butcher, P. Clavell, D. W. Cho, T. R. Faschingbauer, J. L. Hedlund, N. Hoffmann, C. S. Newmark, B. J. Powell, M. Robertson, J. Spera).
- Newmark, C. S., Faschingbauer, T. R., & Mlott, S. Present status and practical applications of abbreviated MMPIs. Discussion group conducted at the meeting of the Southeast-

ern Psychological Association, Atlanta, March, 1975.

Who owns test items? Present confusion and anxieties about 1984. Discussion group conducted at the 10th Symposium on recent developments in the use of the MMPI, St. Petersburg, Florida, February, 1975. (Participants: J. N. Butcher, W. G. Dahlstrom, T. R. Faschingbauer, R. D. Fowler, S. R. Hathaway, S. H. Hunter, C. S. Newmark, A. H. Ricks).

Faschingbauer, T. R. The psychometric worth of short form MMPIs. Discussion group conducted at the meeting of the American Psychological Association, Washington, September, 1976. (Participants: W. T. Norman, J. H. Ricks, M. Robertson).

Newmark, C. S. An introduction to MMPI interpretation and short forms of the MMPI. Workshop conducted at the meeting of the Society for Personality Assessment, Inc., San Diego, March, 1977.

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## A Note on "MMPI Scale Development Methodology"

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*Summary:* Clopton's recent article (1978) in *JPA* calls attention to methodological problems in the construction of special inventories from the MMPI pool, but overlooks the major problem. It stems from the theoretical correlation between psychopathology and the construct to be measured by the special inventory. This contamination renders the usual validity demonstration questionable. It is pointed out that there is a good number of special inventories that are not subject to the methodological problems noted by Clopton.

Clopton's article (1978) is a praiseworthy warning flag not only to those who would develop special inventories (certainly a more accurate word than "scales") from the MMPI pool, but to those who use them clinically. Some of his points deserve clarification and/or further exposition.

1. In applying a special inventory, arbitrary recourse to a T score of 70 as the upper cut-off point, whether based on the experimental or control group score distributions, is unwarranted. Overlap of the standardization sample distributions is one of several possible methods of establishing cut-off points.

2. There is no mathematically sound way of determining the number of significant statistics to be expected by chance alone when those statistics are nonindependent, as responses to MMPI items are. Only field testing can determine validly whether item discrimination was heavily influenced by chance factors.

3. The sampling distribution of chi-square tends to become distorted when there are small expected cell frequencies. The selection of minimum cell frequency is arbitrary; 5 is a common choice but various statisticians have proposed 10, 2 and 1, depending in part on the number of cells in the chi-square matrix. It is important to realize that the small expected cell frequency theoretically increases the probability of finding a significant difference or relationship. Thus a chi-square that is not significant may be accepted as a valid measure even if it is derived from small cell frequencies.

Unfortunately, Clopton completely overlooked the main problem in deriving new inventories from the MMPI pool.

It stems from the fact that most of the MMPI statements tap psychopathology in some form or another. If the trait or characteristic to be measured by the new inventory is at least moderately correlated with the psychopathology-no pathology dimension, misleading results may emerge from the test validation procedure.

For example, suppose a test constructor wished to develop an MMPI-item measure of a hypothetical trait like "selfishness." He has two contrasting groups defined by sociometric judgments: the Selfish and the Unselfish. He now finds 36 MMPI statements, or 51, or 117, that differentiate the two groups at the 1% level and a Selfishness Inventory is born. Mission accomplished.

But is it? Suppose that the correlation between "selfishness" and psychopathology is .50. A logical assumption is that the Selfishness Inventory is contaminated by this relationship. Much, if not all, of the discriminatory capacity of its items may be due to the variance overlap, that is, to responses induced by psychopathology rather than "selfishness" per se. The remainder of the discrimination might very well be a function of sampling variations which improved the discriminatory capacity of these particular items from .12 or .05 to .01.

The only reasonable conclusion is that the validity of the Selfishness Inventory is undemonstrated or at the very optimum, seriously questionable.

Many of the special inventories that have been developed from the MMPI pool purportedly tap constructs that appear to be related to the psychopathology-no pathology dimension, e.g., dominance, responsibility, alcoholism, caudality,



lower back pain, work attitude, overcontrolled hostility. The usual validity demonstration may be inadequate for such inventories. Despite its acknowledged scientific shortcomings, clinical usage seems to be the ultimate evaluation of the validity of this type of special inventory.

Clopton is correct when he says that "empirical scale construction" methodology has been employed to derive a majority of the special measures extracted from the MMPI item pool. But there is still a fair number that have been obtained by other methods and are thus not prey to the defects of "empirical scale construction" (though they may be subject to other problems). For example, inventories have been developed using factor analysis or other cluster analyses of the MMPI pool (Eichman, 1961; Stein, 1968; Welsh, 1952; Wiggins, 1966). Inventories based on direct, logical analysis of content have been proposed by Cook and Medley (1954), Harris and Lingo (Note 1), Little and Fisher (1958), Pepper and Strong (Note 2), Weiner and Harmon (See Weiner, 1948), and MDAC (Connolly, Levitt, & McAdoo, 1977). These ten references alone yield over 80 inventories. There is also a number of ratio measures such as the Index of Psychopathology (Sines & Silver, 1963) and the Acting-Out ratio (Connolly, Levitt, & McAdoo, 1977) that are also not subject to the problems mentioned by Clopton.

#### Reference Notes

1. Harris, R. E., & Lingo, J. C. *Subscales for the MMPI: An aid to profile interpretation*. (Mimeo-graphed). San Francisco: Department of Psychiatry, University of California, 1955.
2. Pepper, L. J., & Strong, P. N. *Judgmental subscales for the Mf scale of the MMPI*. Unpublished report, 1958.

#### References

- Clopton, J. R. MMPI scale development methodology. *Journal of Personality Assessment*, 1978, 42, 148-151.
- Connolly, F. J., Levitt, E. E., & McAdoo, W. G. *Computer-assisted analysis of the Minnesota Multiphasic Personality Inventory*. Indianapolis: IUPUI Press, 1977.
- Cook, W. W., & Medley, D. M. Proposed hostility and pharisaic-virtue scales for the MMPI. *Journal of Applied Psychology*, 1954, 38, 414-418.
- Eichman, W. J. Replicated factors on the MMPI with female NP patients. *Journal of Consulting Psychology*, 1961, 25, 55-60.
- Little, K. B., & Fisher, J. Two new experimental scales of the MMPI. *Journal of Consulting Psychology*, 1958, 22, 305-306.
- Sines, L. K., & Silver, R. J. An index of psychopathology (IP) derived from clinicians' judgments of MMPI profiles. *Journal of Clinical Psychology*, 1963, 19, 324-326.
- Stein, K. B. The TSC Scales: The outcome of a cluster analysis of the 550 MMPI items. In P. McReynolds (Ed.), *Advances in psychological assessment, Vol. 1*. Palo Alto, Ca.: Science and Behavior Books, 1968.
- Welsh, G. S. An anxiety index and an internalization ratio for the MMPI. *Journal of Consulting Psychology*, 1952, 16, 65-72.
- Wiener, D. N. Subtle and obvious keys for the MMPI. *Journal of Consulting Psychology*, 1948, 12, 164-170.
- Wiggins, J. S. Substantive dimensions of self-report in the MMPI item pool. *Psychological Monographs*, 1966, 80, 22 (Whole No. 630).

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## Sex Role Conformity in Homosexual and Heterosexual Males

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**Summary:** Nine principal components were extracted from the scores of 26 homosexual and 26 heterosexual males matched on age, education, occupation status, and sampling frame on Adjective Check List, Bem Sex Role Inventory, Chapin Social Insight Test, Experience Inventory, and Sixteen Personality Factor Questionnaire scales selected to represent a variety of "masculine" and "feminine" sex role attributes. The four most general varimax factors, accounting for 48% of the total variance, were: I) "Feminine Openness," II) "Masculine Boldness," III) "Reflection," and IV) "Novelty Seeking." Factor scores were constructed and indicated that the homosexual sample was significantly more identified with Factor I ( $p < .001$ ; 17% of total variance). There was no significant difference between the samples on Factor II, nor on the remaining two general factors which were not sex typed.

Although many studies support the hypothesis that there is no significant difference between homosexual and heterosexual males in overall "adjustment" (e.g., Clark, 1973; Dean & Richardson, 1964; Evans, 1970, 1971; Hooker, 1957; Horstman, 1972; Siegelman, 1972; Stringer & Grygier, 1976; Thompson, McCandless, & Strickland, 1971), there is considerably less agreement in the area of sex role orientation. Homosexual males have been described as more feminine than heterosexual males (Evans, 1971; Manosevitz, 1970, 1971; Thompson, Schwartz, McCandless, & Edwards, 1973.) At least one study has reported no significant differences between homosexual and heterosexual males in sex role orientation (Heilbrun & Thompson, 1977). Two other studies concluded that high and low masculinity and femininity form a complex relationship with homosexuality, homosexual males being more identified with "feminine" characteristics, but at the same time more androgynous, while heterosexual males are more identified with "masculine" characteristics (Hooberman, 1975; Stringer & Grygier, 1976).

Constantinople (1973) and Hartley (1959) have suggested that a variety of attributes are associated with both sex roles. The "feminine" attributes include tender-minded, sensitive, emotional, nurturant, submissive, imaginative, sense of self and others. The "masculine" attributes in-

clude self-sufficient, goal-directed, bold, strong, and outgoing.

This study was intended to bring together personality scales representing the range of "masculine" and "feminine" attributes along with a measure of masculinity, femininity, and androgyny, and analyze them using samples of homosexual and heterosexual males. Factors based on a range of "masculine" and "feminine" attributes may have more utility for assessing sex role conformity than bipolar masculinity-femininity scales and may help to clarify some of the conflicting data. If there were no differences between the homosexual and heterosexual samples on such factors, then this would suggest that homosexual males were no less conforming to a masculine role nor more conforming to a feminine role than heterosexual males. However, if there were significant differences, then this would suggest a relationship between sexual object preference and sex-role conformity.

### Method

#### Subjects

Twenty-six white homosexual males and 26 white heterosexual males were matched on age, education (last year of school completed), occupation status level (suggested by Weinberg & Williams, 1974), and sampling frame (volunteer or paid). There was no significant difference between the homosexual and heterosexual

ual samples in previous psychotherapy or previous participation in psychological research. All subjects were from the Los Angeles area. Thirteen pairs of subjects were volunteers, recruited by naive intermediaries through friendship networks (two of 15 original pairs were dropped due to incorrect assumption of sexual object choice). Thirteen pairs were recruited from social contexts (bars, restaurants, parties, organizations, and churches) and paid five dollars for participating. None of the paid pairs had to be dropped due to incorrect assumption of sexual object choice.

### *Dependent Measures*

Individual scales were selected from the Adjective Check List (ACL), the Bem Sex Role Inventory (BSRI; Bem, 1974), the Chapin Social Insight Test (Gough, 1968), the Experience Inventory (EI; Coan, 1972; available from Richard Coan, Department of Psychology, University of Arizona, Tucson), and the Sixteen Personality Factor Questionnaire (16PF). Scales were included in this study either because of their use in previous research comparing homosexual and heterosexual samples or because of their association with masculine or feminine attributes. Demographic variables have been implicated as mediator variables in the assessment of masculinity-femininity (Constantinople, 1973), therefore age and education were included in the analysis to assess their contribution to these factors.

*Adjective Check List.* The protocols were scored for eight scales: Number Checked (*No. Ckd*), Self-Confidence (*SCfd*), Lability (*Lab*), Personal Adjustment (*Pers Adj*), Intraception (*Int*), Heterosexuality (*Het*), Autonomy (*Aut*), and Change (*Chg*).

*Bem Sex Role Inventory.* Three scales, Masculinity (*M*), Femininity (*F*), and Social Desirability (*SD*), were scored. Bem (1974) has shown that *M* and *F* are essentially uncorrelated and independent. Each subject's androgyny score was computed as the absolute value of *F* - *M*, low scores indicating androgyny, and high scores indicating sex typing (For further discussion see Wakefield,

Sasek, Friedmand, & Bowden, 1976).

*Chapin Social Insight Test.* This device yields one score designated "social insight" intended to assess an individual's ability to appraise others and forecast what they might say and do. This score has been found to relate moderately to intellectual ability and femininity of interests (Gough, 1968).

*Experience Inventory.* The inventory was constructed by oblique factor analysis to form seven scales that distinguished semi-independent components of openness to cognitive activities, non-cognitive inner experiences, and varying experiences of the environment. The factors are correlated most highly with other variables that involve emotional sensitivity, aesthetic interests, liberalism, independence, and emotional distress (Coan, 1972). There are seven scales and a total openness score: 1) aesthetic sensitivity vs. insensitivity — reporting a variety of aesthetic experiences; 2) unusual perceptions and associations — unusual ways of experiencing self, body, and surroundings; 3) openness to theoretical or hypothetical ideas — enjoying abstract, novel, and unusual ideas; 4) constructive utilization of fantasy and dreams — suggesting access to unconscious processes and willingness to rely on them for constructive ends; 5) openness to unconventional views of reality vs. adherence to mundane material reality — entertains ideas in astrology, extrasensory perception, reincarnation; 6) indulgence in fantasy vs. avoidance of fantasy — daydreams and enjoys fantasies; 7) deliberate and systematic thought — need for orderly and planful thinking; and 8) total openness score.

*Sixteen Personality Factor Questionnaire.* Eight scales were scored: Reserved vs. Outgoing (*A*); Dull vs. Bright (*B*); Tough-minded vs. Tenderminded (*C*); Practical vs. Imaginative (*M*); Forthright vs. Astute (*N*); Conservative vs. Experimenting (*Q<sub>1</sub>*); and Group Dependent vs. Self-sufficient (*Q<sub>2</sub>*).

### *Analysis*

The 29 scored scales and two demographic variables, age and education, were factored by the principal-components method followed by blind varimax



rotation. Adopting the usual criterion, all factors with eigenvalues greater than one were rotated. Composite indices were built from the factor-score coefficient matrix, producing an independent factor score of standardized value for each subject on each of the principal factors.

### Procedure

The instructions and inventories were delivered to the subjects' homes, where they were filled out individually and picked up several hours later. The order of the inventories was randomized but was the same for each member of a pair. To discourage contamination of a subject's responses, the demographic questionnaire and Kinsey scale (Kinsey, Pomeroy, & Martin, 1948), used to validate the prior assumption of sexual object preference, was always filled out last. To minimize the possibility of matching with a bisexual male, only those who rated themselves exclusively or predominantly heterosexual (Kinsey score of 0 or 1) or exclusively or predominantly homosexual (Kinsey score of 6 or 7) were retained in the sample. The answer sheets were coded for pair assignment, and subjects were informed that their results were anonymous. Questions about the nature of the research were deferred until debriefing. Five subjects from each sample were chosen randomly for post-experimental inquiry (Jung, 1971). Heterosexual subjects claimed to be naive until they reached the last packet, with the Kinsey Scale. They then speculated that the study had to do with sexuality, although they were not sure of what aspect. Homosexual subjects all believed that the study had to do with their sexuality, although they speculated "adjustment" in general terms.

### Results

#### Matching

Sampling frame, either volunteer (from friendship network) or paid (from social contexts), was the same for both members of all pairs. Occupation status level, using the classifications of Weinberg and Williams (1974), was matched exactly for all pairs. The number and proportion of pairs in each status level was:

(a) "low status," nine pairs (.35), (b) "medium status," 14 pairs (.54), and (c) "high status," three pairs (.12).

The samples were very close on the two other matching variables. The mean ages were: homosexuals, 28.65, heterosexuals, 28.62. The mean years of education were: homosexuals, 15.08, heterosexuals, 14.04.<sup>1</sup>

### Factor Analysis

Varimax rotation extracted nine principal components, Factors I through IX, presented in Table 1.<sup>2</sup>

Factor I accounted for 31% of the common variance and was identified as "Feminine Openness." It relates to openness to the constructive use of fantasy and dreams, unconventional views of reality, aesthetic sensitivity, theoretical modes of thought, feminine role characteristics, androgyny, openness to unusual perceptions and associations, and tenderminded sensitivity.

By contrast, Factor II accounted for 23% of the common variance and was identified as "Masculine Boldness." This factor is associated with the "masculine" characteristics of outgoing, venturesome, and self-confident.

Factor III, "Reflection," accounted for 16% of the common variance and represents intraception, social desirability, and personal adjustment. "Reflection" connotes qualities of femininity and sociability.

Factor IV, "Novelty Seeking," accounted for 12% of the common variance and can be interpreted as seeking novel experience, inner restlessness, delight in the unusual and challenging, a nonsystematic thinking process, and seeking interaction with opposite sex peers.

<sup>1</sup> A table of the results of the matching for each pair has been deposited with NAPS. Order NAPS document No. 03237 from NAPS c/o Microfiche Publications, P. O. Box 3513, Grand Central Station, New York, N. Y. 10017. Remit in advance for each NAPS accession number. Institutions and organizations may use purchase orders when ordering, however, there is a billing charge of \$5.00 for this service. Make checks payable to Microfiche Publications. Photocopies are \$5.00. Microfiche are \$3.00 each. Outside the US and Canada, postage is \$3.00 for a photocopy and \$1.00 for a fiche.

<sup>2</sup> The complete varimax factor loading matrix has been deposited with NAPS. (See Footnote 1.)



Table 1

Seven Factor Varimax Solution and Variable Loadings

Device	Scale Name	Factors								
		I	II	III	IV	V	VI	VII	VIII	IX
EI	Total Openness	.98								
EI	Use of Fantasy	.73								
EI	Unconv. Views	.71								
EI	Indul. Fantasy	.71								
EI	Aesthetic Sensitivity	.67								
EI	Open to Theor. Ideas	.60								
BSRI	Femininity	.57		.48		-.40				
16PF	Outgoing		.80							
BSRI	Masculinity	.79								
16PF	Venturesome	.62								
ACL	Self-confidence	.57				-.43				
ACL	Intracception			.79						
BSRI	Social Desirability			.78						
ACL	Personal Adjustment			.71						
ACL	Change				.77					
ACL	Lability				.75					
EI	Systematic Thought				-.64			-.48		
ACL	Heterosexuality				.51					
16PF	Astute					.79				
ACL	Autonomy				.42	-.54				
	EDUCATION						.75			
16PF	Intelligence						.75			
16PF	Imaginative							.85		
16PF	Self-sufficient							.57		
	AGE								.80	
	SOCIAL INSIGHT								.62	
16PF	Experimenting									.79
EI	Unusual Perception	.41								.69
BSRI	Androgyny	.43	-.48							
ACL	Number Checked					-.47				
16PF	Tenderminded	.42						.49		
Proportion of Common Variance:		.306	.226	.164	.116	.089	.081	.077	.060	.057
Cumulative Proportion of Total Variance:		.171	.605	.407	.483	.543	.597	.647	.689	.728

*Note.* This matrix has been arranged so that columns appear in decreasing order of variance explained by factors. The rows have been arranged so that for each successive factor, loadings greater than .50 appear first; loadings less than .40 have been omitted.

Table 2

Mean Factor Score Differences Between Homosexual and Heterosexual Pairs

Factor	D <sup>a</sup>	SD	t <sup>b</sup>
I. Feminine Openness	+0.81	1.12	+3.70**
II. Masculine Boldness	+0.01	1.32	+0.04
III. Reflection	+0.24	1.34	+0.89
IV. Novelty Seeking	+0.33	1.11	+1.50
V. Defensively Astute	+0.53	1.67	+1.63
VI. Education/Intelligence	-0.12	0.77	-0.81
VII. Unconventional Independence	+0.63	1.24	+2.60*
VIII. Age/Social Insight	+0.16	0.82	+0.99
IX. Experimenting	+0.19	1.43	+0.67

<sup>a</sup> A positive difference indicates the homosexual sample was more highly identified with a factor, a negative one indicates the heterosexual sample was more highly identified with a factor.

<sup>b</sup> *t* test for correlated samples, *df* = 25 for all cases.

\* *p* < .01.

\*\* *p* < .001.

Factors V through IX each accounted for less than 10% of the common variance: Factor V, "Defensively Astute," shrewd, but in a repressed and unassertive way; Factor VI, "Education/Intelligence;" Factor VII, "Unconventional Independence," characterized by imaginative, self-sufficient, tenderminded, and nonsystematic thinking; Factor VIII, "Age, Social Insight;" Factor IX, "Experimenting."

Factor scores were estimated for each subject and are presented in Table 2.

The homosexual sample was significantly more identified than the heterosexual sample with "Feminine Openness,"  $t = 3.70$ ,  $df = p < .001$ . This indicates that the homosexuals conformed more to certain aspects of the feminine role. They appear to be more sensitive and open to thoughts and feelings.

The homosexual sample was also significantly more identified with "Unconventional Independence,"  $t = 2.60$ ,  $df =$

25,  $p < .01$ . This is not "independence" in the "masculine" sense of striving and accomplishment but rather again of a "feminine" nature. The homosexuals can be interpreted as having more imagination and perhaps a less systematic and more sensitive mode of thinking.

There were no other significant differences between the samples. The homosexuals and heterosexuals scored essentially the same on "Masculine Boldness." This indicates that while homosexuals appear to conform more to some aspects of the feminine role, such as sensitivity, openness, and imaginative, they conform equally to some aspects of the masculine role. They appear to be as outgoing, venturesome, and self-confident as the heterosexuals.

<sup>3</sup> The negative loading of the Androgyny score with "Masculine Boldness" is consistent with the results of Wakefield, Sasek, Friedman, and Bowden's (1975) study in which in a sample of males, masculinity scores were negatively associated with androgyny scores.

### Discussion

The homosexual males were more identified with "feminine" attributes but no less identified with "masculine" attributes. The homosexual males characterized themselves as more open, especially to fantasies, feelings, and thoughts, more aesthetically sensitive, and more tenderminded than their matched heterosexual counterparts, but equally outgoing, venturesome, and self-confident.

Studies comparing the sex role orientation of homosexual and heterosexual males have yielded conflicting results. Some early studies used bipolar masculinity-femininity scales, reporting that homosexual males were more "feminine" than heterosexual males (e.g., Evans, 1971; Manosevitz, 1970, 1971; Thompson, Schwartz, McCandless, & Edwards, 1973). Two recent studies used quadripolar scales that treat masculinity and femininity as separate dimensions: One reported that homosexual males had significantly higher "femininity means" and significantly lower "masculinity means" than the heterosexual males, but that the homosexual males were significantly more androgynous (Hooberman, 1975). The other reported no significant differences between samples of homosexual and heterosexual males in sex role orientation (Heilbrun & Thompson, 1977).

The discrepant results reported in these studies may be due to two possible reasons: First, the constructs of masculinity and femininity may be different from one scale to another. Second, masculinity-femininity scales, whether bipolar or quadripolar, might be adequate for assessing sex, or gender identity, but they might be too narrow to assess sex, or gender, role. The difference between gender identity and gender role is discussed by Money and Ehrhardt (1972).

An accurate understanding of sex role conformity can only follow an assessment including a range of personality variables that have been associated with the masculine and feminine roles (Constantinople, 1973). This was attempted in this study and in Stringer and Grygier's (1976) factor analysis of the Dynamic Personality Inventory using sam-

ples of homosexual and heterosexual males. Their results were not completely consistent with the results of this study. They reported that homosexuality was positively related to a "femininity factor" and negatively related to a "masculinity factor." One explanation for this discrepancy may be that the factors extracted by Stringer and Grygier (1976) are not the same as the ones extracted in this study. Different instruments were used in the two studies, and their "feminine factor" was described as narcissism and their "masculine factor" was described as masculine activities, interests, aspirations, and fantasies.

The results of both studies may actually complement each other. On the face of it, there is no conflict between the factors extracted in either study and the way in which the samples were associated with them. Taken together, the two studies specify a number of particular areas of the masculine and feminine roles in which homosexual and heterosexual males are the same or different. Homosexual males may endorse many aspects of the feminine role — openness to fantasies, feelings, and thoughts, aesthetic sensitivity, tendermindedness, and narcissism. They may also endorse some aspects of the masculine role — outgoing, venturesome, and self-confident — to the same degree as heterosexual males, while not endorsing others — masculine interests, activities, aspirations, and fantasies. Heterosexual males may differ from homosexual males in that they may endorse no aspects of the feminine role while endorsing most or all aspects of the masculine role.

### References

- Bem, S. L. The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 1974, 42, 155-162.
- Clark, T. R. Homosexuality as a criterion predictor of psychopathology in nonpatient males. *Proceedings of the 81st Annual Convention of the American Psychological Association*, Montreal, Canada, 1973, 8, 407-408.
- Coan, R. W. Measurable components of openness to experience. *Journal of Consulting and Clinical Psychology*, 1972, 39, 346.
- Constantinople, A. Masculinity-femininity: An exception to a famous dictum? *Psychological Bulletin*, 1973, 80, 389-407.

- Dean, R. B., & Richardson, H. Analysis of MMPI profiles of forty college educated overt male homosexuals. *Journal of Consulting Psychology*, 1964, 28, 483-486.
- Evans, R. B. Sixteen Personality Factor Questionnaire scores of homosexual men. *Journal of Consulting and Clinical Psychology*, 1970, 34, 212-215.
- Evans, R. B. Adjective Check List scores of homosexual men. *Journal of Personality Assessment*, 1971, 35, 344-349.
- Gough, H. G. *The Chapin Social Insight Test*. Palo Alto: Consulting Psychologists Press, 1968.
- Hartley, R. E. Sex-role pressures in the socialization of the male child. *Psychological Reports*, 1959, 5, 457-468.
- Heilbrun, A. B., Jr., & Thompson, N. L., Jr. Sex-role identity and male and female homosexuality. *Sex Roles*, 1977, 3, 65-79.
- Hooberman, R. *Gender identity and gender role of male homosexuals and heterosexuals*. Unpublished doctoral dissertation. University of Michigan, Ann Arbor, 1975.
- Hooker, E. The adjustment of the male overt homosexual. *Journal of Projective Techniques*, 1957, 21, 18-31.
- Horstman, W. R. Homosexuality and psychopathology: A study of the MMPI responses of homosexual and heterosexual male college students. *Dissertation Abstracts International*, 1972, 33(5-B), 2347.
- Jung, J. *The experimenter's dilemma*. New York: Harper & Row, 1971.
- Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. *Sexual behavior in the human male*. Philadelphia: W. B. Saunders, 1948.
- Manosevitz, M. Item analyses of the MMPI *Mf* scale using homosexual and heterosexual males. *Journal of Consulting and Clinical Psychology*, 1970, 35, 395-399.
- Manosevitz, M. Education and MMPI *Mf* scores in homosexual and heterosexual males. *Journal of Consulting and Clinical Psychology*, 1971, 36, 395-399.
- Money, J., & Ehrhardt, A. *Man and woman: Boy and girl: The differentiation and dimorphism of gender identity from conception to maturity*. Baltimore: Johns Hopkins University, 1972.
- Siegelman, M. Adjustment of male homosexuals and heterosexuals. *Archives of Sexual Behavior*, 1972, 2, 9-25.
- Stringer, P., & Grygier, T. Male homosexuality, psychiatric patient status, and psychological masculinity and femininity. *Archives of Sexual Behavior*, 1976, 5, 15-27.
- Thompson, N. L., Jr., McCandless, B. R., & Strickland, B. R. Personal adjustment of male and female homosexuals and heterosexuals. *Journal of Abnormal Psychology*, 1971, 78, 237-240.
- Thompson, N. L., Jr., Schwartz, D. M., McCandless, B. R., & Edwards, D. A. Parent-child relationships and sexual identity in male and female homosexuals and heterosexuals. *Journal of Consulting and Clinical Psychology*, 1973, 41, 120-127.
- Wakefield, J. A., Jr., Sasek, J., Friedman, A. F., & Bowden, J. D. Androgyny and other measures of masculinity-femininity. *Journal of Consulting and Clinical Psychology*, 1976, 44, 766-770.
- Weinberg, M. S., & Williams, C. J. *Male homosexuals, their problems and adaptations*. New York: Oxford University Press, 1974.
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## Effects of Three Conditions of Administration on Bem Sex Role Inventory Scores

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**Summary:** In order to assess the validity of the technique employed in selecting items for the Bem Sex Role Inventory (BSRI) 58 male and 62 female undergraduates took the BSRI under three different sets of instructions. Both males and females were able to produce extremely masculine and extremely feminine BSRI profiles which differed ( $p < .01$ ) from their own BSRI profiles. The results support Bem's (1974) assertion that the BSRI Masculinity and Femininity scales are comprised of items which are consistent with widely held sex-role stereotypes.

The purpose of this study is to assess the validity of Bem's (1974) method of item selection used in developing the Bem Sex Role Inventory (BSRI). The items which constitute the BSRI are personality characteristics in the form of descriptive adjectives which were differentially evaluated by male and female college students in terms of their desirability as personality characteristics for either men or women in American society. Since the BSRI was constructed on the basis of widely held stereotypic conceptions of masculinity and femininity, it should be transparent in this regard and subjects should easily discriminate masculine and feminine items. Thus, it follows that if subjects are asked to characterize sex-typed people on the BSRI they should be able to do so. In addition, the resulting BSRI scores should differ significantly from subjects' self-perceptions on the BSRI, especially in a college sample which may be assumed to be more androgynous than the population-at-large.

### Method

Fifty-eight male and 62 female undergraduates from the University of Miami completed the BSRI under each of three Conditions of Administration. For one type of BSRI administration subjects were instructed to fill it out as an accurate reflection of their self-perceptions (Self-Condition). On a second administration subjects were ordered to complete the BSRI as they thought the most masculine individual imaginable would (Most Masc Condition). On a third administration subjects were asked to complete the BSRI as they thought the most feminine individual imaginable would (Most Fem

Condition). The order in which the tests were taken was counterbalanced across subjects.

### Results and Discussion

*T* tests comparing mean Masculinity scores for males in the Most Masc ( $M = 5.95$ ), Most Fem ( $M = 3.44$ ), and Self-Condition ( $M = 5.48$ ) were all significant at  $p < .05$ . Similarly, *t* tests comparing mean Femininity scores for males in the Most Masc ( $M = 3.65$ ), Most Fem ( $M = 5.02$ ), and Self-Condition ( $M = 4.52$ ) were all significant at  $p < .05$ .

*T* tests comparing mean Masculinity scores for females in the Most Masc ( $M = 5.86$ ), Most Fem ( $M = 3.58$ ), and Self-Condition ( $M = 4.87$ ) were all significant at  $p < .05$ . Likewise, *t* tests comparing mean Femininity scores for females in the Most Masc ( $M = 3.42$ ), Most Fem ( $M = 3.42$ ), Most Fem ( $M = 5.32$ ), and Self Condition ( $M = 5.08$ ) were all significant at  $p < .05$ .

As expected, subjects were able to produce extremely masculine and feminine BSRI scores that differed significantly from each other and from self-perceptions. These results support Bem's contention that her method of item selection did indeed tap widely held stereotypes of masculinity and femininity in American society. At the same time, however, these data highlight the fact that the BSRI is an extremely obvious measure which is highly susceptible to faking.

### Reference

- Bem, S. L. The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 1974, 42, 155-162.  
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## Further Evidence on 16 PF Distortion Scales

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**Summary:** Norms were obtained on a nationally representative sample of 4830 adult men and women for two empirically developed faking indices for Cattell's 16 Personality Factor Questionnaire (16 PF) by Winder, Karson, and O'Dell (1975). These data provided convincing evidence that the cutoff suggested in the original work for the faking good scale was far too liberal and would routinely classify more than half of all 16 PF protocols as invalid. The faking bad cutoff appeared to be approximately correct. The correlations of the faking scales with the 16 PF primary factors were highly congruent with those reported in the development study and provided additional validity evidence for the two indices. Both indices were found to be sufficiently reliable to permit adjustments to be made in the primary trait scales when distortion is above average.

Despite the practicality and economy of objective personality tests, their sensitivity to certain forms of distortion has been perceived by many as a significant limiting factor. On the other hand, projective techniques have retained a central place in personality assessment despite their questionable reliability, due, no doubt, in part to the fact that they are seen as less vulnerable to faking (Wade & Baker, 1977).

This is paradoxical, because careful theoretical analyses of various factors that distort our perception of the true personality have shown that no assessment methods — projective included — are entirely clear of bias (Cattell, 1977). Questionnaires may be affected by response sets, social desirability factors or the general tendency to fake good. Projectives, in turn, often reflect the skill of the examiner as much as the personality of the examinee. Trait-view theory (Cattell, 1968; Krug & Cattell, 1971) maintains that any method that relies on behavior judgments by an observer, regardless of whether it is the individual evaluating his own behavior in response to a series of questionnaire items or a trained clinician evaluating the productions of an examinee, is strongly influenced by characteristics of that observer.

But, while questionnaires are no less — and no more — sensitive to distortion they are, by their nature, more responsive to detection and correction of distortion sources. For example, items especially sensitive to faking can be replaced with

more subtle but equally valid items without destroying the nature of the test. Because the range of responses is controlled, endorsement frequencies can be more precisely analyzed. A collection of infrequently endorsed items, as in the case of the MMPI's *F* scale, may provide a useful way of scaling distortion tendencies. In many cases, scales developed on the basis of empirical studies of simulated distortion have proven to be valid and sensitive distortion indices.

As a result, few personality tests are constructed today without including one or more scales designed to assess test-taking attitude. A faking good or motivational distortion scale so constructed had been available for some time in Form C of the 16 Personality Factor Questionnaire (16 PF), a short version of the test intended principally for occupational selection work (Cattell, Eber, & Tatsuoka, 1970). However, until recently no comparable scale had been developed for Form A, a longer, more reliable and more extensively used form. Consequently, the development of two self-contained and empirically validated distortion scales for Form A of the 16 PF by Winder, O'Dell, and Karson (1975) represented a significant contribution to the test's utility. Both of these new scales, one to measure the examinee's tendency to fake good and one to measure the examinee's tendency to fake bad, were rapidly adopted by test users and became an integral part of the test profile for many.

Just as the T score conversions initially

suggested for MMPI validity scales *L* and *F* were found to be in error, clinical experience with these new 16 PF validity scales soon hinted that the cutoffs Winder, O'Dell, and Karson calculated on the basis of validation samples might be somewhat misleading. They originally proposed that scores of 6 or higher on each of these scales (scores may range from 0 through 15) could be indicative of serious departures from normal test-taking attitudes. However, it seemed that these cutoffs, especially with regard to the faking good scale are somewhat low.

The question of "where to draw the line" when validity is involved is an important practical consideration for all test users. In some situations, as when test results must be used in court, or when a personnel decision must be made, the issue assumes paramount importance. Since Winder et al.'s original work was conducted with relatively limited samples of undergraduates it seemed entirely possible that these scales might operate differently outside the university. Consequently, research was undertaken to check the distribution of these two validity scales in a larger sample more representative of the wide variety of people with whom the 16 PF is used. The study also provided a chance to provide independent cross-validation for the scales, to examine their reliabilities, and to explore the question of sex differences. These last two issues had been ignored in the initial work.

### *Method*

Answer sheets used in this study represented a random sample of those sent to IPAT's Test Services Division for scoring and computer processing between June, 1976 and June, 1977. Rather than simply use all of the sheets processed in a shorter period of time, the random selection technique was used to insure that subjects were broadly representative of 16 PF administrations throughout the United States. If the study spanned only the summer months, for example, university and other school students might be seriously underrepresented.

In some cases the test scores were being used for clinical assessment or for career

or personal guidance. Sometimes tests were administered for job selection or promotion purposes. In certain instances entire college entering freshman classes had been tested, and, of course, many examinees were participants in some type of psychological or educational research. The sample therefore, includes some subjects whose motivation to fake good was very high, others who for a variety of reasons (e.g., to evade the criminal justice system for the mental health system) would exhibit strong tendencies to present themselves as unfavorably as possible, and a great number of individuals who would have little reason to distort markedly in either direction. In short, the data collected for this study is reasonably representative of all types of subjects with whom the test is routinely used in practice, not simply undergraduate or research subjects. The sample included 2251 women and 2579 men. Approximately 30% of the data were obtained from university or college settings and another 15% were involved in an advanced or professional education program (i.e., seminaries, nursing schools, graduate schools, etc.) at the time they completed the 16 PF. High school students accounted for another 5% of the sample. The remaining subjects came from a variety of testing centers throughout the country. Since 16 PF test users normally use Form C or Form E of the test with adults whose reading skills are impaired, it is reasonable to suppose that the sample was above the national average in reading level.

The age range of the nonuniversity samples was 16 through 65 years with a mean of 33. Subjects were not evenly distributed throughout this range and the heaviest concentration was in the 25-35 year span.

On the faking good scale, scores were reasonably normally distributed with a range of 0 through 14, a mean of 5.71 and a standard deviation of 2.72 for women and a range of 0 through 15, a mean of 6.36 and standard deviation of 2.87 for men. A test of mean difference between the sexes resulted in a *t* of 8.04 which was statistically significant beyond all conventional levels. However, given the extremely large sample size it is not unlikely



that almost any nonzero difference between two means would represent a significant departure from chance. In such cases it is therefore important to evaluate the practical significance of any difference. One common way is to calculate  $\omega^2$  (Hays, 1963), an estimate of the proportion of variance in the criterion variable (here the faking good scale) which is accounted for by the classification variable (sex). When this was done, it was determined that only 1.3% of the variance in the faking good scale could be attributed to variation in sex despite the extremely large  $t$ .

On the faking bad scale, which also has a potential raw score range of 0 through 15, women ranged from 0 to 11, with a mean of 2.24 and a standard deviation of 2.04. Men ranged from 0 through 12 and had a mean of 2.45 and a standard deviation of 2.27. Both distributions were highly skewed and fewer than 10% of the examinees scored above 6 on the scale. The test for mean difference resulted in a significant  $t$  (2.15,  $p < .05$ ), but again sex accounted for an insignificant proportion of variance in the scale scores ( $< .02\%$ ).

On the basis of these findings, male and female data were pooled and raw score to standard score conversion tables were prepared following the sten system which is conventional with 16 PF data. Stens are standardized scores with a mean of 5.5, a standard deviation of 2, and a range from 1 through 10 in the reference population. The conversion tables reported in Table 1 are each based on an area rather than a linear transformation of raw scores in an attempt to normalize the raw score distributions. However, this was clearly not possible in the case of the faking bad scale and the standard score distributions remain highly skewed. This is perhaps more clearly evident in the raw score-percentile equivalents also shown in Table 1.

Next a reliability study was conducted on an independent sample of 311 university undergraduates. For the faking good scale,  $\alpha = .45$ . For the faking bad scale  $\alpha = .43$ . The corresponding standard errors of measurement are 1.74 for the faking good scale and 1.63 for the faking bad scale.

In order to determine what impact these two forms of distortion have on the 16 PF primary scales and what corrections might be possible, each faking score was correlated with the 16 primary trait scales. These results are reported in Table 2. In order to avoid spurious correlation due to item overlap the 16 PF primary scales which shared items with the faking scales were rescored and shared items eliminated.

As an additional check on the validity of the scales the mean differences reported in the original article were translated into point-biserial correlation coefficients and compared to the values in Table 2.<sup>1</sup> Congruence coefficients between corresponding vectors of correlations were .95 for the faking good scale and .89 for the faking bad scale, both of which are significant beyond the .01 level.

### Discussion

As can be seen from the data reported above, the cutoff suggested by Winder et al. with respect to the faking good scale appears to be far too liberal. Using this cutoff, about 55% of all individuals routinely examined with the test would be judged to be faking instead of the 7% reported for the Winder et al. derivation sample. Apart from the fact that the present samples are broader and more representative, perhaps the reason for the discrepancy between these results and those reported earlier lies in something analogous to the "shrinkage" phenomenon encountered in regression problems, since their cutoff is based on the derivation sample. There is also evidence that college students (at least, men) score somewhat lower on the scale than unselected adults and that high school students score even lower than college students. In the present samples, means were 6.59 for adult males, and 4.82 for high school males. Adult women scored 5.62, college women averaged 5.92, and high school women 4.65. Consequently, an age factor may also contribute to the discrepancies noted. With regard to the faking bad scale the discrepancies are similar but not nearly as sizeable.

<sup>1</sup> Standard deviations were not reported in the article. A constant 2.00 (i.e., the population value) was assumed for all scales.



Table 1

Raw Score to Standard Score Conversions for 16 PF,  
For A Faking Good and Faking Bad Scores

Raw Score	Faking Good Standard Scores		Faking Bad Standard Scores	
	Sten Score	Percentile Rank	Sten Score	Percentile Rank
0	1	0.0	1	19.7
1	2	3.7	5	44.2
2	3	10.3	6	63.4
3	3	19.5	6	74.8
4	4	31.3	7	84.3
5	5	44.9	8	90.1
6	6	58.0	8	94.0
7	6	70.1	9	96.9
8	7	79.9	10	98.6
9	7	87.5	10	99.5
10	8	93.1	10	99.9
11	9	96.8	10	99.9
12	10	98.7	10	100.0
13	10	99.5	10	100.0
14	10	99.9	10	100.0
15	10	100.0	10	100.0

Raw Score Mean

6.06

2.82

Raw Score SD

2.35

2.16

Judging by the figures reported in Table 1 it would seem that a raw score of 10 on the faking good scale, rather than a score of 6, is a better cutoff if, in fact, cutoffs are necessary. Only about 15% of individuals taking the test are expected to get scores as high as this. On the faking bad scale the original suggestion seems about right and may be even a touch conservative — 90% of all subjects in the present research scored less than 6.

The correlation patterns are consistent with expectations. In general, people who are trying to present themselves favorably

on the 16 PF tend to make themselves look less anxious. Specifically, they appear more emotionally stable (C+), more venturesome (H+), less suspicious (L-), less guilty (O-), more self-controlled (Q<sub>3</sub>+) and less tense (Q<sub>4</sub>-). The only other important relationship is to the G factor on which they tend to make themselves more conscientious. The pattern for faking bad is, with only minor exceptions, a mirror image.

While the best thing to do about distortion is prevent it in the first place, what can be done about a completed test pro-

Table 2

Correlations of 16 PF Primary Factors  
With Distortion Scales

Primary Trait	Faking Good	Faking Bad
A Warm-hearted	17**	-13*
B Intelligent	01	-10.
C Emotionally stable	36**	-36**
E Assertive	-05	02
F Enthusiastic	-15*	-05
G Conscientious	30**	-10
H Venturesome	13*	-20**
I Sensitive	-09	-15*
L Suspicious	-21**	18**
M Imaginative	07	-11
N Shrewd	03	04
O Worried	-30**	21**
Q <sub>1</sub> Experimenting	01	12*
Q <sub>2</sub> Self-sufficient	03	12*
Q <sub>3</sub> Controlled	31**	-20**
Q <sub>4</sub> Tense	-35**	29**

*Note.* Based on 311 male and female undergraduates. Decimal points have been omitted.

\*  $p < .05$ .

\*\*  $p < .01$ .

file which is highly suspect? In cases where an obviously distorted profile cannot be replaced with valid data the following adjustments are suggested. These are based on the regressions of the distortion scales on the primary trait scales and represent an attempt to partial out distortion from real trait variance. However, as Cattell et al. (1970, p. 55) have pointed out applying such a correction takes out some real personality variance along with the distortion variance and so the corrections

should be regarded as liberal and used cautiously:

1. If the faking good sten score is 7, add one sten score point to Q<sub>4</sub>. Subtract 1 from C.
2. If the faking good sten score is 8, add 1 to L, O, and Q<sub>4</sub>. Subtract 1 from A, C, G, and Q<sub>3</sub>.
3. If the faking good sten score is 9, add 1 to F, L, O, and Q<sub>4</sub>. Subtract 1 from A, C, G, and Q<sub>3</sub>.
4. If the faking good sten score is 10, add 2 to Q<sub>4</sub>. Subtract 2 from C. Add 1 to F, L, and O. Subtract 1 from A, G, H, and Q<sub>3</sub>.

No corrections are indicated when the faking good sten score is less than 7. Given the obtained standard errors of measurement for the two scales and using this rule, corrections will only be introduced when the probabilities are quite high that the obtained distortion score is, in fact, elevated. It is interesting to note that the 64 possible corrections, for the faking good scale (i.e., 16 traits at each of 4 sten levels) more than 80% are identical with those suggested for use with the 16 PF Form C motivational distortion scale (IPAT staff, 1972). In essence, the regressions of these two independently derived scales on the primary trait scales are virtually identical. With regard to the faking bad scale the following adjustments are suggested:

1. If the faking bad sten score is 7, add 1 to C.
2. If the faking bad sten score is 8, add 1 to C. Subtract 1 from O and Q<sub>4</sub>.
3. If the faking bad sten score is 9, add 1 to C, H, I, and Q<sub>3</sub>. Subtract 1 from L, O, and Q<sub>4</sub>.
4. If the faking bad sten score is 10, add 2 to C. Add 1 to A, H, I, and Q<sub>3</sub>. Subtract 1 from L, O, and Q<sub>4</sub>.

In summary, when checked on large, representative samples of adults, the relationship of two newly developed distortion indices for Form A of the 16 PF to the primary trait scales essentially replicate the original experimental findings. Cutoff scores suggested by Winder et al. were found to be too low for the faking good scale but about right for the faking bad scale. Both scales were found to be sufficiently reliable to permit some adjustments to be made in the primary trait scales when distortion is elevated.

## References

- Cattell, R. B. Trait-view theory of perturbations in ratings and self ratings (L(BR- and Q-data): Its applications to obtaining pure trait score estimates in questionnaires. *Psychological Review*, 1968, 75, 96-113.
- Cattell, R. B. A more sophisticated look at structure: Perturbation, sampling, role, and observer trait-view theories. In R. B. Cattell & R. M. Dreyer (Eds.), *Handbook of modern personality theory*. New York: Wiley, 1977.
- Cattell, R. B., Eber, H. W., & Tatsuoka, M. M. *Handbook for the 16 Personality Factor Questionnaire*. Champaign, IL: IPAT, 1970.
- Hays, W. L. *Statistics for psychologists*. New York: Holt, 1973.
- IPAT Staff. *Tabular supplement #2 to the 16 PF handbook: Form C/D norms*. Champaign, IL: IPAT, 1972.
- Krug, S. E., & Cattell, R. B. A test of the trait-view theory of distortion in measurement of personality by questionnaire. *Educational and Psychological Measurement*, 1971, 31, 721-734.
- Krug, S. E., & Laughlin, J. L. *Handbook for the IPAT depression scale*. Champaign, IL: IPAT, 1976.
- Wade, T. C., & Baker, T. B. Opinions and use of psychological tests: a survey of clinical psychologists. *American Psychologist*, 1977, 32, 874-882.
- Winder, P., O'Dell, J. W., & Karson, S. New motivational distortion scales for the 16 PF. *Journal of Personality Assessment*, 1975, 39, 532-537.
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## The Development of the Telic Dominance Scale

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**Summary:** The development of a 42-item measure of a number of personality features derived from the theory of psychological reversals is reported. These personality features are (a) the extent to which a person is serious-minded, (b) the extent to which a person plans ahead and organizes himself in the pursuit of goals, and (c) the extent to which a person seeks to avoid arousal. These features together are seen to constitute a personality trait which is described as *telic dominance*. Data concerning the test-retest reliability, criterion-related and construct validity of the Telic Dominance Scale are presented, together with the scale and scoring key.

This paper reports on the development of a scale intended to measure a personality dimension derived from a new theory in psychology known as the theory of psychological reversals (Smith & Apter, 1975). This theory argues that although many psychological systems are homeostatic and involve one stable state for the organism, other psychological systems are bistable and involve the organism having two preferred stable states. Often the two members of a pair of such bistable states can be seen as opposite to each other; when a switch occurs from one stable state to the other opposing state a *reversal* may be said to have occurred.

For example, it is argued that there are two stable states in relation to felt arousal. In one of these the individual attempts to gain as much arousal as possible, high arousal being felt as pleasant ("excitement") and low arousal as unpleasant ("boredom"). In the opposite stable state the individual attempts to reduce arousal as far as possible; in this case high arousal is felt as unpleasant ("anxiety") and low arousal as pleasant ("relaxation"). In this context, it should be noted that it is the way in which arousal is interpreted affectively by the organism rather than the level of arousal which is seen to be bistable. Although these two states are each said to be stable, reversal from one state to the other may be induced by a variety of factors. This approach to arousal differs fundamentally from that of optimal

arousal theory which implies homeostasis. Some data in relation to felt arousal which is more consistent with the idea of bistability than of homeostasis has been presented by Apter (1976).

A number of pairs of opposites which act in a bistable fashion have been suggested within the theory, each pair being represented in consciousness by contrasting experiential states. The identification of these pairs has its origins in self-observation and clinical experience. One aspect of the development of the present scale is that it constitutes an attempt to demonstrate the existence of a dimension associated with one of the principle pairs of opposites in the theory.

According to the theory, a particular individual may be predisposed to spend more time in one state than the other for a given pair of opposite states. That is to say, other things being equal, he is more likely to be in one state rather than its opposite at any specified time. For that individual one member of the pair may be said to be *dominant* over the other, and this dominance can be regarded as a feature of his personality. This dominance can be thought of as a personality trait, although the notion of "trait" as applied here is a little unusual. This is because the feature denotes a probability of an individual being in a given state rather than its opposite; but he will be expected to change to the opposite state from time to time under certain conditions. In contrast, a trait like extraversion implies that the individual is extravert to a given extent *all* the time. Traits generally imply consistency; the personality features

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which are derived from the theory of reversals, although description of general trends, are based on processes which are inherently inconsistent.

The aim of the Telic Dominance Scale (TDS) is to measure the degree of dominance of the telic state over its opposite state, termed "paratelic" for individual respondents.

The telic state is defined as a state of mind in which the individual sees himself as pursuing some essential goal. Pleasure derives in this state from achievement of the goal or from the anticipation of such an achievement. In the paratelic state, in contrast, the individual either does not see himself as pursuing a goal at all, or if a goal is being pursued, this is not seen by him as being essential; rather, it is an excuse to perform the behavior. In this state of mind pleasure derives from the performance of the behavior itself and from related sensations and feelings. Furthermore, the telic state is one in which the individual's focus of attention tends to be on the future, whereas in the paratelic state of mind it tends to be focused upon immediate sensations on the "here and now."

The previous distinction between arousal-avoidance and arousal-seeking is also supposed, in the theory, to be related to the telic-paratelic distinction. The telic state is said to be characterized by the attempt to lower arousal and thus avoid anxiety; in contrast, the paratelic state is characterized by the attempt to raise arousal and thus seek excitement.

Although it may appear that the personality features measured by the TDS bear relationship to certain features measured by other scales like the sensation-seeking scale (Zuckerman, 1971) and the impulsiveness scale (Eysenck & Eysenck, 1977) the rationale underlying the TDS is in fact quite different as is indicated above.

### *Scale Construction and Item Analysis*

A 69-item inventory to measure telic dominance was constructed, the 69 items being selected from a pool of 90 potential items by a panel of five judges using face validity criteria. Each item required the respondent to choose between two alternatives which were seen to represent telic

and paratelic choices respectively. For respondents uncertain as to their choice a "not sure" option was also available for each item. The instruction to respondents read:

If you have an open choice, which of the following alternatives would you usually prefer, or which most nearly applies to you?

The respondent was, therefore, required to make a general self-assessment rather than to judge his or her current state.

Each item included in the inventory had been allocated to one of three subscales by the judges who had selected the items from the original pool. The three subscales were:

*Seriousmindedness* — the degree to which an individual is oriented toward goals seen as essential or important to himself or herself (or others identified with), physically or psychologically, rather than goals seen as being trivial, arbitrary or inessential.

*Planning Orientation* — the degree to which an individual plans ahead and organizes in pursuit of goals, rather than taking things as they come. That is, it is the degree to which a person is oriented toward the future rather than the present and the extent to which pleasure is gained from the achievement of goals or in anticipating goal achievement rather than from immediate behavior or sensations.

*Arousal Avoidance* — the degree to which an individual avoids situations which generate high arousal and seeks situations in which arousal levels are low.

These three subscales all relate to the telic-paratelic dimension and the serious-mindedness subscale is seen to constitute the defining characteristics of this dimension. The subscales are not necessarily connected, i.e. one could be high on any one of these subscales and low on the other two; however, the theory of reversals suggests that there will in fact tend to be a close relationship between them. It should also be noted that we would expect the relationship between arousal avoidance and the other two subscales to be less strong than that obtaining between the serious-mindedness and planning orientation subscales. One reason for this assertion is that sometimes high arousal may be required temporarily in the telic

Table 1  
Intercorrelations Between Subscales and Total Score for 69-Item Inventory  
( $n = 119$ )

	Serious Mindedness	Planning Orientation	Arousal Avoidance	Total
Serious- Mindedness				
Planning Orientation	.632			
Arousal Avoidance	.351	.470		
Total	.810	.870	.720	

system in order to achieve subsequent low arousal.

Responses to the 69-item inventory were scored in a telic direction. A telic choice was scored as 1, paratelic choices were not scored and "not sure" responses were scored as .5. The scoring of "not sure" choices is an accepted practice in such inventories (see Eysenck & Wilson, 1975; Figart, 1965). Scores for each subscale are obtained and summed to give a total score which acts as an indicator of the telic dominance of each subject. The higher the score, the greater the telic dominance. (The scale could, of course, equally well have been scored in the opposite direction and called the "paratelic dominance scale").

The test was administered to an opportunity sample of 119 adults, varying widely in age and background, the largest group of which consisted of 38 full-time undergraduate students of psychology. The resulting data was subject to a thorough analysis, details of which are presented below.

The distribution of each of the subscales was normal. Despite a small negative skew and a relatively high degree of observed platykurtosis, the arousal avoidance subscale correlated significantly with the planning orientation and seriousmindedness subscales as well as with the total score. Table 1 gives this data. These correlations, which are all significant at the 1% level, support the predic-

tion from reversal theory that the three characteristics measured by these subscales would be related to each other. It will also be noted that, though significant at the 1% level, the correlation between arousal avoidance and seriousmindedness is weaker than that existing between the seriousmindedness and planning orientation subscales. Using the Fisher  $z$  transformation and the procedures given in Guildford and Frutcher (1973, pp. 166-167) for examining differences between correlation coefficients, the differences in  $z$ s deviate from 0.0 to the extent of  $-2.470$ . This is a statistically significant difference ( $p < .05$ ) indicating that though the arousal avoidance subscale is clearly associated with each of the other subscales of the TDS and also the total score, the level of association is significantly weaker than the level of association for seriousmindedness or planning orientation. This is not inconsistent with predictions from the theory mentioned above.

As a measure of item: subscale and item: scale consistency the alpha coefficient was used (Cronbach, 1951). Table 2 gives the alpha coefficients for each subscale and the total score, all of which show high consistency. Interestingly, the arousal avoidance subscale had, relatively, the highest degree of consistency, though differences between the alpha coefficients were slight.

Following from a comprehensive data

Table 2

Alpha Coefficients for Each Subscale and the Total Score  
( $n = 119$ )

	Serious-Mindedness	Planning Orientation	Arousal Avoidance	Total
Alpha	.691	.655	.734	.837

Table 3

Means, Standard Deviations and Ranges for Subscales and Total Scores  
for the 42-Item TDS

	Mean	S. D.	Range
Seriousmindedness	6.4	1.9	1.5 to 10.0
Planning Orientation	5.6	2.1	0.0 to 11.0
Arousal Avoidance	6.4	2.3	1.0 to 11.0
Total Score	18.5	4.2	6.0 to 23.5

analysis items were excluded from this first version of the scale if they were seen to be ambiguous and vague or not to discriminate between telic and paratelic orientations. Operationally, an item was seen to be ambiguous if 10% or more of respondents used the "not sure" response or if, in comments made by respondents, ambiguity was indicated. An item was not seen to discriminate if 85% or more of the respondents chose either the telic or paratelic response. Using these criteria, 12 items were excluded.

Further items were excluded using an item: subscale and item: total score criterion. Items for which the biserial correlation coefficients between either item: own subscale or item: total score were less than .238 were excluded, this being the figure at which  $r_s$  became significant at  $p < .01$ . Two items were excluded using this criterion.

Following the application of these three criteria (ambiguity, discrimination, and association) to exclude items left an uneven number of items in each of the subscales. It was decided that all subscales

should be 14 items, this being the size of the scale with the smallest number of items at the end of this analysis. There are several reasons for preferring subscales with an equal number of items. These include the fact that it will be convenient for future research to make the subscales comparable with each other without further computation and that the total score is not unduly weighted by any single subscale.

The resulting version of the scale consisted of 42 items divided into three subscales of 14 items each. This scale, which from now will be referred to as the Telic Dominance Scale (TDS), is given in Appendix A. Each item has been labelled with the subscale to which it belongs (S for seriousmindedness, P for planning orientation, and A for arousal avoidance) and the telic choice within each item has been marked with an asterisk. Table 3 gives the means, standard deviations and range of the scores obtained through the use of this 42-item scale with 112 first year, part-time undergraduates of the Open University aged between 21 and 60.

Table 4

Test-Retest Reliability Studies of the TDS for Differing Periods of Elapsed Time

Group	Time Between	n	Serious-Mindedness	Planning Orientation	Arousal Avoidance
1	6 hours	32	.952	.803	.872
2	6 weeks	48	.605	.773	.790
3	6 months	32	.634	.702	.711
4	12 months	15	.632	.677	.698

*Reliability*

Four reliability studies were carried out using the TDS with four different groups of adult subjects over differing periods of time. Group 1 consisted of 32 students of art and psychology, together with some staff colleagues; group 2 of students at a technical college aged between 17 and 35; group 3 of full-time undergraduate students of psychology and group 4 of housewives attending occasional talks and seminars on psychology as part of a recreational program.

The results are shown in the resulting Table 4. As can be seen from this data, these results are highly satisfactory, with all of the test-retest reliability coefficients being significant at  $p < .01$  irrespective of the time interval. Without this evidence there would have been some reason to suspect that, despite the instruction to respondents to answer in terms of their *usual* preferences, they might well have been responding in terms of their *current* preferences. (In time of reversal theory these two may, of course, be very different). That is to say, the reliability data given in Table 4 helps to establish that the TDS is *not* a state measure and that the indications of telic dominance given by the scale scores may properly be regarded as enduring personality characteristics.

*Validity*

A number of validity studies have been conducted using the TDS. These studies are reported below.

*Factor Analysis*

Using principle component factor

analysis with varimax rotation a factor analysis was conducted on the scale responses of 100 part-time undergraduate adult students of the Open University aged between 21 and 60. A three factor model was seen to be the most satisfactory nontrivial factor solution, with the three rotated factors closely resembling the three factors selected on the basis of face validity criteria. Using the factors produced through the application of the principal components method, the serious-mindedness and planning orientation factors were seen to account for 79% of the variance in the test scores. No significant effects due to age or sex were observed when a multiple analysis of variance was conducted.

*Global Self-descriptions*

The "Who Am I" (WAI) test is a self-descriptive, unstructured device for discovering the way in which subjects choose to describe themselves (Kuhn & McPartland, 1954). The WAI was administered to 51 undergraduate students of psychology at the University College, Cardiff. Global ratings of student responses were given by three judges independently of each other, using a 5-point scale in which high scores indicated high telic dominance. The mean of the inter-judge reliability coefficients was .879 ( $p < .05$ ). The sum of these ratings across all three judges was correlated with the total score of each respondent on the TDS. This gave a correlation of .30 ( $p < .05$ ). This indicated that TDS scores are consistent with certain aspects of the way in which subjects perceive themselves.



Table 5

Correlations Between Robinson's *n* Ach Measure and the TDS  
(*n* = 112)

	Serious-Mindedness	Planning Orientation	Arousal Avoidance
Hope of Success	-.275	-.288	-.272
Fear of Failure	.263	.277	.271

### *State Measures in Everyday Life*

During the course of a week, 14 subjects rated themselves at hourly intervals each afternoon, in terms of two 7-point scales which relate to the telic-paratelic dimension. Latitude was given about how long into the evening the subjects would rate themselves, but it was emphasized that the scales should be rated irrespective of the ongoing activity at the time. The median number of ratings per subject was 30.

On one scale the subjects rated how far at that moment they were inclined to do something serious or something playful. On the other they rated the extent to which they were seeking excitement or relaxation. The average for each subject on each of these rating scales was calculated and ranked and the results for the first scale (serious/playful) were correlated with their ranked scores on the serious-mindedness subscale of the TDS; scores on the second rating scale (excitement/relaxation) were correlated with their ranked scores on the arousal avoidance subscale of the TDS. The aim of this was to see whether the preferences expressed in the TDS represented real preferences in everyday life. The rank correlation in the first case was .345, which just misses significance at the 5% level; the second rank order correlation was .662 which is significant ( $p < .01$ ). Both of these correlations were in the anticipated direction.

### *Construct Validity Studies*

In the first of a number of construct validity studies, 112 first year undergraduate students of the Open University aged between 21 and 60 completed

the 15-item *Q* Ach need for achievement scale of Robinson (1961) and the TDS. The *Q* Ach scale, previously used by Argyle and Robinson (1967), provides two *n* Ach measures which relate directly to the personality features measured by the TDS. These are: (a) a measure of "hope of success," (b) a measure of "fear of failure." Table 5 provides the correlation matrix for these two *n* Ach measures against the three subscales of the TDS. All correlations are significant at the 1% level. The data presented in Table 5 indicate that persons who may be regarded as highly telic appear to fear failure while persons who may be regarded as having a low degree of telic dominance (i.e. are highly paratelic) have a high hope of success, as indicated by the negative correlations.

From the description of telic dominance provided at the outset, it is clear that the highly telic dominant individual should be more prone to feelings of anxiety than the individual who has a low telic dominance score. In the second construct validity study, the TDS was administered to 60 full-time undergraduate students together with two measures of anxiety. One of these anxiety measures was the trait measure of Spielberger, Gorsuch, and Lushene (1970), while the other was the anxiety-defensiveness measure of Millimet (1970). The latter measure is said to relate to "a dimension of personality reflecting low anxiety and effective avoidance of defenses against anxiety at one pole and high anxiety and ineffective avoidance defenses against anxiety at the other pole" (p. 610). The correlations between both of these anxiety measures and the TDS total score were positive ( $r = .19$

Table 6

Intercorrelations Between the TDS and the Shortened Version of the EPI  
( $n = 112$ )

	Extraversion	Neuroticism
Seriousmindedness	.061	.070
Planning Orientation	.077	.044
Arousal Avoidance	.049	-.045

and = .24 respectively); the correlation between the TDS and the Millimet measure was significant ( $p < .05$ ). This relationship suggests that telic dominance is associated with higher levels of anxiety expressed in terms of weak anxiety defense.

In a further construct validity study, 60 undergraduate students of psychology completed a variation of Stroop's color-word interference task (Stroop, 1935) in which subjects are asked to note the color of words which are presented, some of the words being unpleasant and emotive (like slime, stench, cancer) and others neutral. Ostensibly the task is about color-naming, but subsequently subjects are asked to recall as many words as they can from the word lists. If subjects remember more words in the first than the second group, it implies some form of sensitization to unpleasant and emotive words; if subjects remember fewer words in the first than the second group it implies that some form of defense has taken place in relation to these words.

In the present study 10 words were used in each group and presented on cards in various combinations, each word appearing 12 times in all. The results showed a negative product-moment correlation between the number of unpleasant words remembered and telic dominance scores ( $r = -.32, p < .05$ ); that is, the more paratelic the subject the more unpleasant words recalled. In terms of the discrepancy between the number of emotional words recalled and the number of neutral words recalled, there was again a negative product-moment correlation with telic dominance scores ( $r = -.37, p < .05$ ).

Since the discrepancy of all subjects was in the direction of more unpleasant than neutral words being recalled, the effect in this experiment was one of sensitization rather than defense; presumably the unpleasant words were not sufficiently threatening to produce defense. Subjects scoring low telic dominance were significantly more sensitized to the words than subjects scoring high on the TDS scale. This is consistent with reversal theory since paratelic dominant subjects would be expected to be more sensitized to words which produce arousal than would telic dominance subjects. The same pattern of results emerged when subjects were asked to pick out words presented in the task from a list of unfamiliar words, i.e. when subjects were tested in terms of recognition rather than recall. The product-moment correlation between the number of unpleasant words recognized the TDS scores was  $-.24 (p < .05)$ , and the product-moment correlation between TDS scores and the discrepancy between unpleasant and neutral words was  $-.27 (p < .05)$ . The results of this particular validation study are particularly interesting since the comparison of the TDS here is with actual behavioral measures rather than with further psychological tests.

In the final validity study, 112 first year part-time undergraduate students of the Open University completed the short, 12-item version of Eysenck's extraversion/neuroticism measure (Eysenck, 1958) together with the TDS. The purpose of this study was to demonstrate that the TDS did not measure extraversion or neuroticism. Table 6 provides the

interscale correlations and these correlations all fail to reach significance, which demonstrates that the TDS does *not* measure either extraversion or neuroticism.

### Conclusion

The data presented in this paper are generally consistent with the idea of a personality characteristic which can be referred to as "telic dominance" and which can be measured with the TDS, details of which have been given.

It is felt that the Telic Dominance Scale will have a number of applications in clinical, educational, and occupational psychology. Later publications will explore some of these applications. Meanwhile, it should be noted that the theory of reversals, from which the notion of telic dominance derives has been applied to the elucidation of certain clinical and counselling problems (Apter & Smith, 1976a, 1976b) and also to the explanation of religious behavior (Apter & Smith, 1977a) and humor (Apter & Smith, 1977b).

### Reference Note

1. Apter, M. J., & Smither, K. C. P. *Religion and the theory of psychological reversals*. Paper presented at the second Lancaster Colloquium on the psychology of religion, Oxford, 1977.

### References

- Apter, M. J. Some data inconsistent with the optimal arousal theory of motivation. *Perceptual and Motor Skills*, 1976, 43, 1209-1210.
- Apter, M. J., & Smith, K. C. P. Psychological Reversals: Some new perspectives on the family and family communication. *Proceedings First International Family Encounter*, Mexico, 1976 November. (a)
- Apter, M. J., & Smith, K. C. P. Negativism in adolescence. *The Counsellor*, 1976, 23/24, 25-30. (b)
- Apter, M. J., & Smith, K. C. P. Humor and the theory of psychological reversals. In A. Chap-

man and H. Foot (Eds.), *It's a funny thing humor. Proceedings of the international conference on humor and laughter*, Cardiff, Oxford: Pergamon Press, 1977.

- Argyle, M., & Robinson, P. Two origins of achievement motivation. *British Journal of Social and Clinical Psychology*, 1962, 1(2), 107-120.
- Cronbach, L. T. Coefficient alpha and the internal structure of tests. *Psychometrika*, 1951, 16, 297-334.
- Eysenck, H. J. Short questionnaire for the measurement of two dimensions of personality. *Journal of Applied Psychology*, 1958, 42, 14-17.
- Eysenck, H. J., & Wilson, G. *Know your own personality*. London: Temple-Smith, 1975.
- Eysenck, S. B. G., & Eysenck, H. J. The place of impulsiveness in a dimensional system of personality description. *British Journal of Social and Clinical Psychology*, 1977, 16, 57-58.
- Figart, R. L. *An elementary school form of the dogmatism scale*. Unpublished doctoral dissertation, Ball State University, 1965.
- Guildford, J. P., & Frutcher, B. *Fundamental statistics in psychology and education*. (5th ed.) Tokyo: McGraw Hill, 1973.
- Kuhn, M. H., & McPortland, T. S. An empirical investigation of self-attitudes. *American Sociological Review*, 1954, 19, 68-76.
- Millimet, C. R. Manifest anxiety-defensiveness scale: First factor of the MMPI revisited. *Psychological Reports*, 1970, 27, 603-616.
- Robinson, P. *The measurement of achievement motivation*. Unpublished doctoral dissertation, University of Oxford, 1961. Scale reproduced in Cohen, L. *Educational Research in classrooms and schools: a manual of methods and materials*. London: Harper & Row, 1976.
- Smith, K. C. P., & Apter, M. J. *A theory of psychological reversals*. Chippenham, U. K.: Picton Press, 1975.
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. *Manual for the trait-state anxiety inventory*. Palo Alto, Calif.: Consulting Psychologists Press, 1970.
- Stroop, J. R. Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, 1935, 18, 643-662.
- Zuckerman, M. Dimensions of sensation seeking. *Journal of Consulting and Clinical Psychology*, 1971, 36, 45-52.

### Appendix A<sup>1</sup>

Note: (S) = seriousmindedness; (P) = planning orientation; (A) = arousal avoidance; an asterisk (\*) denotes the telic choice in each item.

- 1 (P) Compile a short dictionary for financial reward\*

Write a short story for fun  
Not sure

- 2 (P) Going to evening class to improve your qualifications\*

Going to evening class for fun  
Not sure

<sup>1</sup> Copyright held by the Psychological Reversals Study Group, Bristol, England. Details available from M. J. Apter, University College, P.O. Box 78, Cardiff, Wales.

## Appendix A (cont'd)

- |        |   |        |   |
|--------|---|--------|---|
| 3 (A)  | Leisure activities which are just exciting<br>Leisure activities which have a purpose*<br>Not sure    | 14 (S) | Leisure activities<br>Work activities*<br>Not sure  |
| 4 (P)  | Improving a sporting skill by playing a game<br>Improving it through systematic practice*<br>Not sure | 15 (A) | Taking holidays in many different places<br>Taking holidays always in the same place*<br>Not sure                       |
| 5 (A)  | Spending one's life in many different places<br>Spending most of one's life in one place*<br>Not sure | 16 (S) | Going away on holiday for two weeks<br>Given two weeks of free time finishing a needed improvement at home*<br>Not sure |
| 6 (P)  | Work that earns promotion*<br>Work that you enjoy doing<br>Not sure                                   | 17 (S) | Taking life seriously*<br>Treating life light-heartedly<br>Not sure   |
| 7 (P)  | Planning your leisure*<br>Doing things on the spur of the moment<br>Not sure                          | 18 (A) | Frequently trying strange foods<br>Always eating familiar foods*<br>Not sure  |
| 8 (P)  | Going to formal evening meetings*<br>Watching television for entertainment<br>Not sure                | 19 (A) | Recounting an incident accurately*<br>Exaggerating for effect<br>Not sure   |
| 9 (A)  | Having your tasks set for you*<br>Choosing your own activities<br>Not sure                            | 20 (P) | Spending £100 having an enjoyable weekend<br>Spending £100 on repaying a loan*<br>Not sure                              |
| 10 (P) | Investing money in a long term insurance/pension scheme*<br>Buying an expensive car<br>Not sure       | 21 (A) | Having continuity in the place where you live*<br>Having frequent moves of house<br>Not sure                            |
| 11 (A) | Staying in one job*<br>Having many changes of job<br>Not sure   | 22 (S) | Going to an art gallery to enjoy the exhibits<br>To learn about the exhibits*<br>Not sure                               |
| 12 (A) | Seldom doing things "for kicks"*<br>Often doing things "for kicks"<br>Not sure                        | 23 (S) | Watching a game<br>Refereeing a game*<br>Not sure   |
| 13 (S) | Going to a party<br>Going to a meeting*<br>Not sure   | 24 (S) | Eating special things because you enjoy them  |



## Appendix A (cont'd)

- |   |        |   |
|---|--------|---|
| Eating special things because they are good for your health*        | 34 (A) | Winning a game easily*                                  |
| Not sure  |        | Playing a game with scores very close                   |
| 25 (P) Fixing long-term life ambitions*                             |        | Not sure  |
| Living life as it comes   | 35 (A) | Steady routine in life*                                 |
| Not sure  |        | Continual unexpectedness or surprise                    |
| 26 (P) Always trying to finish your work before you enjoy yourself* |        | Not sure  |
| Frequently going out for enjoyment before all your work is finished | 36 (A) | Working in the garden*                                  |
| Not sure  |        | Picking wild fruit                                      |
|   |        | Not sure  |
| 27 (P) Not needing to explain your behaviour                        | 37 (S) | Reading for information*                                |
| Having purposes for your behaviour*                                 |        | Reading for fun   |
| Not sure  |        | Not sure  |
|   | 38 (S) | Arguing for fun   |
| 28 (S) Climbing a mountain to try to save someone*                  |        | Arguing with others seriously to change their opinions* |
| Climbing a mountain for pleasure                                    |        | Not sure  |
| Not sure  | 39 (S) | Winning a game*   |
| 29 (S) Happy to waste time  |        | Playing a game for fun                                  |
| Always having to be busy*   |        | Not sure  |
| Not sure  | 40 (A) | Traveling a great deal in one's job                     |
| 30 (A) Taking risks   |        | Working in one office or workshop*                      |
| Going through life safely*  |        | Not sure  |
| Not sure  | 41 (P) | Planning ahead*   |
| 31 (S) Watching a crucial match between two ordinary sides*         |        | Taking each day as it comes                             |
| Watching an exhibition game with star performers                    |        | Not sure  |
| Not sure  | 42 (P) | Planning a holiday*                                     |
| 32 (P) Playing a game   |        | Being on holiday  |
| Organising a game*  |        | Not sure  |
| Not sure  |        |   |
| 33 (S) Glancing at pictures in a book                               |        |   |
| Reading a biography*  |        |   |
| Not sure  |        |   |

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## **Objective Personality Assessment of Children: An Exploratory Study of the Personality Inventory for Children (PIC) in a Child Psychiatric Setting**

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*Summary:* Some initial data are presented on the clinical utility of a new multidimensional objective personality inventory, the Personality Inventory for Children (PIC). Tabulation of symptoms and family characteristics independently derived from the chart data generated by 79 preadolescent outpatient evaluations resulted in an average of 12 correlates for each of the 16 profile scales. These correlates provided substantial support for the basic interpretive intent of at least 14 of these scales, as well as additional serendipitous construct validity in the form of PIC scale-parent descriptor relationships. The presentation of case findings of two adolescents with dissimilar PIC profiles demonstrated the potential value of this diagnostic instrument.

Quantitative measurement of personality traits or symptom clusters has not played a significant role in the clinical evaluation of children as it has in the evaluation of adults. Psychometric evaluation of child personality continues to be synonymous with application of projective techniques (Halpern, 1965; Mundy, 1972) which are dependent for their accuracy upon the skill of the clinician using them (Anastasi, 1975) and have not demonstrated in the literature substantial differential validity (O'Leary, 1972). This difference in psychometric orientation reflects, in part, the lack of development of objective personality inventories which efficiently measure relevant dimensions of child behavior. Children have not willingly subjected themselves to diagnostic questionnaires — indeed, most children seen for evaluation, regardless of level of motivation, lack the prerequisite reading and/or conceptual skills to successfully complete even the most basic list of inventory items. Current personality inventories are either read to the child being evaluated, or are limited in application to older children and adolescents. The time and effort involved in obtaining inventory data appear, from the current utilization of these measures, to not be justified by the amount of incremental validity added to standard diagnostic procedures. Application of currently available child person-

ality questionnaires appears to be primarily limited to research in personality and descriptive psychopathology.

The recent publication of the Personality Inventory for Children (PIC) has introduced an approach to child personality assessment with characteristics compatible with current diagnostic practices. The PIC provides multidimensional data for children and adolescents which may result in increased validity or efficiency over current assessment procedures. This questionnaire is completed by the primary informant in the diagnostic process, usually the child's mother. These 600 items are completed within 45 to 90 minutes and the responses are readily transformed to provide a 16-scale clinical profile, 17 supplemental scale scores and a "critical item" list. Completion of the PIC may be easily integrated into the diagnostic process as part of the application or intake procedure, while the child is being observed and interviewed, or during a psychometric evaluation.

The PIC manual (Wirt, Lachar, Kline, & Seat, 1977) provides norms for preschool through adolescent subjects based on a sample of 2,600 normal children, validity information and reliability data for both clinical and normal samples. Mean profiles of various diagnostic and study samples and the factor structure of inventory scales and profile scale items derived from a substantial heterogeneous clinical sample are also presented.

We wish to thank Dr. James Grisell for assistance in statistical analysis.

in this 96-page test manual.

The goal of this study was to evaluate the diagnostic potential of the PIC in a child psychiatry setting by determining the external correlates of the 16 PIC profile scales and through the comparison of the case studies of two male adolescent outpatients with dissimilar PIC profiles.

### Method

PIC protocols completed by mothers were available for 79 preadolescent children who had received an outpatient evaluation at the Lafayette Clinic. These 55 boys and 24 girls averaged 9 years, 8 months of age ( $X = 115.8$  months,  $SD = 20.0$ ). Though no psychotic children were included in this sample, the primary diagnoses obtained suggested varied symptomatology: Hyperkinetic Reaction-19%, Unsocialized Aggressive Reaction-14%, Specific Learning Disturbance-13%, Depressive Neurosis-11%, Adjustment Reaction-11%, Overanxious Reaction-10%, Mental Retardation/OBS-9%, Withdrawing Reaction-8%, Seizure Disorder-4%, and No Psychiatric Illness-1%.

Two raters, after determining adequate interrater agreement ( $> 85\%$ ) of a 94-item problem checklist on ten initial case histories, each reviewed half of the medical records of 79 preadolescent children and completed this checklist independent of PIC data. This evaluation form covered the areas of self-concept, affect, cognitive functioning, interpersonal relations, physical development and health, family relations and parent description. The majority of these correlates are short, dichotomous (present, absent) and related primarily to current child behavior.

Each PIC protocol was then scored for the 16 profile scales: Lie (*L*), F, Defensiveness (*DEF*), Adjustment (*ADJ*), Achievement (*ACH*), Intellectual Screening (*IS*), Development (*DVL*), Somatic Concern (*SOM*), Depression (*D*), Family Relations (*FAM*), Delinquency (*DLQ*), Withdrawal (*WDL*), Anxiety (*ANX*), Psychosis (*PSY*), Hyperactivity (*HPR*), and Social Skills (*SSK*). Point-biserial correlations were computed for each scale-correlate pair.

### Results and Discussion

Statistical analysis identified 187 scale-correlate pairs significant at  $p < .01$  (rpb  $\geq .26$ ). Significant scale external correlates are presented in Table 1. Each PIC profile scale obtained an average of 11.9 significant correlates. Poorer scale correlate performance may have reflected infrequent symptomatology in the study sample (*SOM*, *PSY*), preexisting limitations in the tabulated checklist items (*ACH*, *IS*, *DVL*) and lack of consistent chart documentation of parental attitudes (*DEF*).

These child and family descriptors derived independently of PIC data have provided substantial support for the basic interpretive intent of at least 14 of these scales, as well as additional serendipitous construct validity in the form of PIC scale-parent descriptor relationships. The Lie Scale, designed to identify a response tendency of denial of common child problems was the only scale found to be consistently related to symptom absence. Scales *F* and *ADJ*, measures of atypical response and general maladjustment, respectively, obtained correlates which support the position that these scores reflect varied symptomatology (nine correlates are in common between *F* and *ADJ*). The Defensiveness Scale, empirically constructed to identify an informant's resistance to discussion of deviant child behaviors, did not receive support in this analysis. This result may reflect the fact that the most appropriate checklist item, "Mother minimizes child's problems," was only chosen by raters six times (7.6%). Additional study of *DEF* is indicated.

The clinical scales constructed using external criterion groups received substantial correlate support, with the possible exception of the Psychosis Scale. In this nonpsychotic sample, *PSY* reflected "Excessive shyness," "Decreased verbal communication/seldom talks," "Has few or no friends," and "Displays receptive and/or expressive aphasic symptoms." The Achievement Scale, previously found to reflect academic retardation as measured by the Peabody Individual Achievement Test (Wirt et al., 1977, p. 17), accurately reflected clinical

Table 1  
Significant ( $p < .01$ ) Correlations Between Checklist Items and PIC Profile Scales

PIC Profile Scales

Checklist Items	L	F	DEF	ADJ	ACH	IS	DVL	SOM	D	FAM	DLQ	WDL	ANX	PSY	HPR	SSK
Receptive and/or expressive aphasic symptoms		32										28		30		
At least one year academic retardation					54	36	46									
Poor concentration/is easily distracted	-26					28										
Excessive daydreaming					32	41	51									
Below average intellectual functioning					27						31					
Poor judgment/needs much supervision												37		36		28
Decreased verbal communication/seldom talks	-27	32	-26				31									
Sensory deficit in hearing or vision					-29			29		32			29			
Exaggerated sense of self-importance		27		33												
Nightmares/bad dreams																
Overly critical of self and/or usually expects failure and/or rejection from others		30		26				26	39			30	31	30		
Teased by peers									31							
Separation anxiety								28	30	29						
Worries a great deal									26							

(cont'd)



Table 1 (cont'd)

Checklist Items	PIC Profile Scales															
	L	F	DEF	ADJ	ACH	IS	DVL	SOM	D	FAM	DLQ	WDL	ANX	PSY	HPR	SSK
Inappropriate affect																
Unrealistic fears																
Isolative (usually plays alone, stays in room)						-33			31		-34	38			-30	
Manifests nervous habits		31				-29			35			34	41	35		
Anxiety, tension, nervousness or restlessness		27		33				35					36			28
Frequent crying													26			
Excessive shyness									47			39	32	33	28	-28
Few or no friends				31												52
Suicidal thoughts and/or self-destructive acts	-32			39				34		30				26	33	49
Temper tantrums	-35									32	31					
Complains of peer hostility and discrimination	-27							46				32	32	34		44
Frequently frustrated	-34	31						41				33	33			31
Disobedient to parents	-30	30		34				29	27			48				27
Blames others for his/her problems	-26	28		42				33	28			43		26	37	36
Verbally hostile or argumentative	-26	35							35			29				26
Destructive of objects	-34			28						28		43			31	
Stealing											42					
											39					

(cont'd)

Table 1 (cont'd)

Checklist Items	PIC Profile Scales															
	L	F	DEF	ADJ	ACH	IS	DVL	SOM	D	FAM	DLQ	WDL	ANX	PSY	HPR	SSK
History of physical fights with peers		27		33							38					
Disobedience to teachers/breaks school rules	-32			35						28	35					30
Impulsive behavior											32				29	27
Overly controlling/bossy													29			
Overactive or agitated											29				43	
Lying				28							27				32	
Rapid mood shifts															30	
Seeks excessive approval															28	
Frequent fights with siblings	-33	34		43				27	46		27	31	31	31		48
Defensive in interview								29		26	35				33	
Previous stimulant medication				49							37				40	39
Previous psychiatric hospitalization and/or previous outpatient psychotherapy													28			
Inconsistent in setting limits:																
Mother	-28															
Father	-37			27		-27					40				28	27
Emotionally disturbed and/or alcoholic or other substance abuser:																
Mother		30		27				31	39			31	34	27		
Father		30		28				26		54	28					

(cont'd)

Table 1 (cont'd)

Checklist Items	PIC Profile Scales																
	I	F	DEF	ADJ	ACH	IS	DVL	SOM	D	FAM	DLQ	WDL	ANX	PSY	HPR	SSK	
Strict disciplinarian and/or uses excessive physical punishment: Mother	-29										30						
Father										41							
Defensive about self in interview: Mother											26						
Rejecting or overly critical of child: Mother					29					28			35		33		29
Overly concerned or overly protective: Mother										26				31			
Parents present a history of marital discord				35						53	31						

cian judgments of poor achievement, limited intellectual and pragmatic ability, as well as possibly a negative self-concept. Evaluation of the Intellectual Screening Scale which had been found to correlate significantly with full scale IQ measures (Wirt et al., 1977, p. 19) not only measured cognitive limitations, but also, in this sample, a reduced probability of behavioral pathology. The Delinquency Scale obtained the most robust correlates in the form of checklist items reflecting impulsive, aggressive, antisocial and uncooperative behaviors. These results in a preadolescent sample are noteworthy, as *DLQ* was constructed using only adolescent criterion samples. The Hyperactivity Scale suggested overactivity, fearlessness, sociability and labile affect.

Those clinical scales constructed using rational item selection and statistical refinement procedures also obtained external support for their suggested interpretive dimensions. Correlates of the Depression, Anxiety and Withdrawal Scales were quite similar in reflecting internalizing psychopathology. The Social Skills Scale clearly identified children who had difficulty in peer relations by such checklist items as: "Has few or no friends" and "Frequent fights with siblings." The Family Relations Scale was supported by independent clinical judgments of parental conflict and paternal pathology, and was also associated with child behavior, including sleep disturbance, separation anxiety and poor school adjustment. Correlates obtained for the Somatic Concern Scale did not directly reflect somatization phenomena,

though 17 children (21.5%) were rated on the basis of medical record data as either "Somatic response to stress (e.g., stomach-aches)," "Headaches," or "Inappropriate somatic concern (hypochondriasis)." Further study in psychiatric and pediatric populations will be necessary to clarify the utility of *SOM*. The Development Scale received few, though clearly relevant, external correlates. Study of other sources of interpretive data available from developmental history, neurological evaluation and neuropsychological measurement may add to the interpretive meaning of this scale.

Examination of the relation between PIC scales and clinicians' independent evaluation of the quality of mother-child interaction yielded theoretically compatible results which demonstrated scale construct validity. Mothers who described their children as displaying externalizing, acting-out, behaviors (*DIQ*, *HPR*, *SSK*) were more often described as being either inconsistent in setting limits, a strict disciplinarian, or as using excessive physical punishment. That is, these mothers were likely to reinforce these impulsive behaviors as well as serve as models of aggression and impulsivity for their children. It is also interesting to note that the mothers who appeared defensive about discussing their own lives during the diagnostic interview were more likely to describe their child as displaying more externalizing behaviors. Perhaps this reflects a need to be seen as separate from their child's highly visible, socially unacceptable behaviors, or may represent an attempt to conceal a personal history of similar behaviors. Mothers who described their children as displaying internalizing behaviors (*D*, *ANX*, *SOM*, *WDL*, *PSY*) were more often described as displaying psychopathology requiring individual psychotherapy, as overly concerned or overly protective, or as rejecting or overly critical. These data suggested that conflicted mothers who demonstrate the symptomatology of anxiety, depression or withdrawal facilitate by example and through characteristic interaction similar behaviors in their children.

## Case Reports

### Case 1

This 15-year-old Caucasian male tenth grader was referred for psychiatric evaluation by his mother upon advice of school officials. Presenting complaints centered around disobedience to authority figures and poor adjustment to public school after three years in private schools. Poor motivation, failure to complete assignments, skipping classes, lying, labile affect and poor concentration were noted by teachers to be associated with current poor school performance, though group achievement tests documented age-appropriate or superior verbal, reading and math skills.

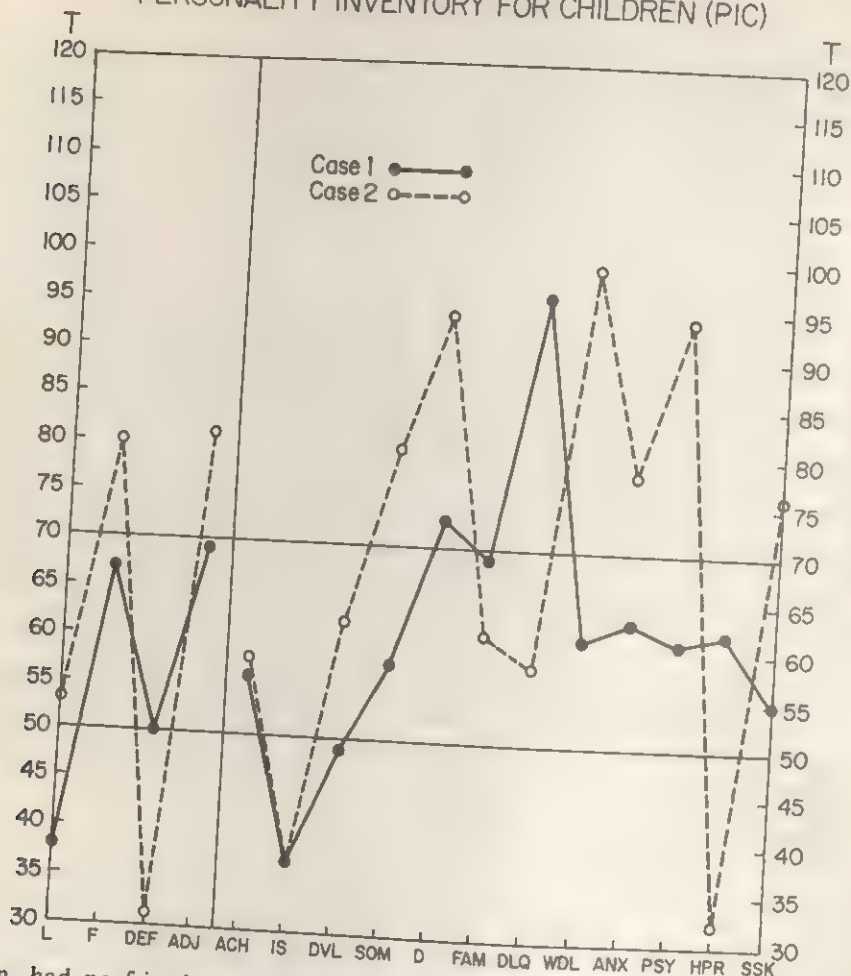
Interview with this youth provided, in addition, evidence of acute depression and anxiety associated with loss of a girlfriend, perceived criticism from peers and increased irritability with his mother, who he noted had become nervous, fearful and demanding. Family history included parental divorce after two years of marriage and many years without any contact between patient and his father. The mother had a history of poor adjustment, took minor tranquilizers during her pregnancy and had attended psychotherapy for three years.

### Case 2

This 14-year-old black male eighth grader was referred for psychiatric evaluation by his mother who was concerned by intensification of problems, centered around social withdrawal, which had existed for several years. "seems to be in a daze, can't get to him, problems in school — seems to be in a world all his own." His mother noted that he had withdrawn from all family functions, spent most of his time alone in his room and frequently stared into space and seemed unaware of his surroundings. She reported a chronic history of difficulty falling asleep, nightmares and early awakening, as well as a history of asthma attacks in early childhood which had necessitated two hospitalizations. His mother recalled that the patient had recently cried on several occasions, asking "Why don't people like me?" Teachers had noted for several years that he was socially with-



## PERSONALITY INVENTORY FOR CHILDREN (PIC)



drawn, had no friends and frequently daydreamed. He demonstrated age-appropriate academic achievement and caused no problems for other classmates, though his teachers felt that he needed psychiatric help.

This patient was visibly anxious and avoided eye contact during the interview. He appeared to be clearly depressed and stated that at times he felt like killing himself. He demonstrated several paranoid ideations, and admitted to hearing voices for the past year, which told him that he was "no good." The patient's mother was described as very nervous, taking Valium on a regular basis, while his father was characterized as a "loner," withdrawn and

totally uninvolved with his family. There were no reported difficulties with other siblings, though all were described as "very quiet around people." This patient was referred after the initial interview for full psychological testing to rule out a thought disorder.

Figure 1 presents the PIC profile scale elevations obtained from the test protocols completed by each adolescent's mother during his evaluation at the Lafayette Clinic. The highest scale elevations for each profile closely parallel the area of difficulty defined during the interview. This comparison is also highly consistent with the external scale correlates presented in Table 1. In addition, differ-

ences between these two adolescents are clearly documented in the large differences in scale elevations. Case study 1 presented the picture of a reactive depression ( $D=73$  T) associated with mild anxiety ( $ANX=63$  T) and transient avoidance of peers ( $WDL=61$  T,  $SSK=55$  T), in contrast to Case Study 2, where chronic internalized depression with suicidal ideation ( $D=94$  T) and anxiety ( $ANX=78$  T) was associated with extreme social withdrawal ( $WDL=99$  T) and lack of friends ( $SSK=76$  T). The large difference obtained on the Delinquency Scale presents in quantitative format the externalization of conflict in Case study 1 ( $DLQ=96$  T) and the internalization of conflict in Case study 2 ( $DLQ=58$  T). It is also interesting to note that the PIC profile supports the recommendation of the need to rule out a thought disorder in Case study 2 ( $PSY=94$  T).

Review of chart data for the year following each initial outpatient interview lends additional understanding of the differences obtained on the PIC profiles. Contact with Case 1 was limited to the initial interview with recommendations sent to the school. After three months of outpatient contact, Case 2 was hospitalized for eight months with resulting mild improvement in social orientation and autonomy.

### Conclusions

We have been pleased with the initial performance of the Personality Inventory for Children in our child and adolescent evaluations. To expand the data presented here and in the PIC manual, we have initiated a project to systematically collect child behavior and development information from parents, teachers and clinicians which will facilitate the evaluation of the relation between scale elevation and problem behavior frequency, chronicity and situational variation. The resulting "cookbook" (Meehl, 1956) will add to the ease and depth of interpreta-

tions, as this methodology has for personality inventories completed for the evaluation of adults (cf. Lachar, 1974).

The objective, quantitative and informant characteristics of this inventory facilitate its clinical and research application in a variety of settings. Administration and scoring is straightforward and requires little formal training. The resulting interpretations are likely to be phrased in terms of high probability behaviors and symptoms which are relatively independent of any specific theoretical approach. Rather, the clinician will be free to impose his own theoretical biases in interpreting the meaning, importance, and treatment implications for the symptom/behavior clusters which are suggested.

### References

- Anastasi, A. Psychological testing of children. In H. I. Kaplan & B. J. Sadock (Eds.), *Comprehensive textbook of psychiatry*. Baltimore: Williams & Wilkins, 1975.
- Halpern, F. Diagnostic methods in childhood disorders. In B. B. Wolman (Ed.), *Handbook of clinical psychology*. New York: McGraw-Hill, 1965.
- Lachar, D. *The MMPI: Clinical assessment and automated interpretation*. Los Angeles: Western Psychological Services, 1974.
- Meehl, P. E. Wanted — a good cookbook. *American Psychologist*, 1956, 11, 263-272.
- Mundy, J. The use of projective techniques with children. In B. B. Wolman (Ed.), *Manual of child psychopathology*. New York: McGraw-Hill, 1972.
- O'Leary, K. D. The assessment of psychopathology in children. In H. C. Quay & J. S. Werry (Eds.), *Psychopathological disorders of childhood*. New York: Wiley, 1972.
- Wirt, R. D., Lachar, D., Klindinst, J. K., & Seat, P. D. *Multidimensional description of child personality: A manual for the Personality Inventory for Children (PIC)*. Los Angeles: Western Psychological Services, 1977.

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## **Locus of Control, Learned Helplessness, and Control of Heart Rate Using Biofeedback**

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*Summary:* Subjects were 24 male undergraduate students. False biofeedback was provided to give the impression of success or failure (helplessness) on a preliminary task. Authentic biofeedback was then provided for control of heart rate. Subjects were administered pre- and post-locus of control scales using Levenson's multidimensional scales. A significant relationship between locus of control and success or failure conditions added validity to Levenson's approach. Results and future research are discussed.

Learned helplessness, originally observed in animals who failed to learn to escape shock after being placed in an unavoidable shock situation, has also been demonstrated in human subjects (Hiroto & Seligman, 1975; Overmier & Seligman, 1967; Roth & Bootzin, 1974; Seligman & Maier, 1967). In general these studies have shown that uncontrollable aversive stimulation or failure on a cognitive task experienced by a human subject would produce interference in learning in a different aversive situation or cognitive task. Their research has found that presentation of escapable or avoidable shock followed by noncontingent shock would immunize the subjects, i.e., prevent them from demonstrating helpless behavior. Subjects could also be immunized by early success on the initial task in much the same way as subjects in the shock experiments could be immunized by experience with controllable shock.

Research by Dweck (1975), Glass, Singer, Leonard, Krantz, Cohen, and Halleck (1973), Hiroto (Note 1), Roth and Bootzin (1974), and others has shown a relationship between locus of control and learned helplessness. Hiroto (1974) states that learned helplessness is conceptually similar to Rotter's Internal-External control of reinforcement concept. There exists, however, some inconsistencies in the locus of control literature, and Levenson (1974) has constructed

a multidimensional locus of control scale which may help explain some of these inconsistencies. She has developed three scales to measure locus of control orientation. Previous research (Levenson, 1973a, 1973b, 1974, Note 2) has indicated that the scales have good reliability and validity. The Internal Scale measures degree of perceived internal control. She subdivides the external concept into two parts as measured by her Powerful Others and Chance Scales. These two scales measure the degree to which one perceives oneself as controlled by powerful other people or by chance, fate, or other means from an unordered environment.

Several studies have explored with encouraging results the relationship between locus of control and the ability to control somatic functions through biofeedback training (Ray, 1971; Wagner, Bourgeois, Levenson, & Denton, 1974). This line of research has a great deal of potential for clinical application.

The present study was concerned mainly with the effects of the subjects' locus of control, whether or not they are in a state of learned helplessness, and how these two factors influence their responses. It attempted to add support to the concept that people with different locus of control perceptions will perform differently in learned helplessness situations. Specifically, the first hypothesis was that those subjects with high Internal Scale



scores would not be as affected by the learned helplessness manipulation as those with low Internal scores, and thus would have better control over both increasing and decreasing their heart rates than low Internal subjects. The second hypothesis was that subjects with a high Chance locus of control score would perform better in the helplessness condition than those with low Chance scores since this situation would be congruent with their perception of reinforcement contingencies and thus would not be uncomfortable to them. The third hypothesis was that subjects in the helplessness condition would be less able to control their heart rates in subsequent heart rate biofeedback sessions than the subjects in the success feedback and control groups. The fourth hypothesis was that the Internal Scale scores of subjects in the helplessness condition would be decreased following exposure to the sham failure biofeedback experience.

#### *Method*

##### *Subjects*

The subjects were 24 undergraduate volunteer males in an introductory psychology class who received course credit for participation. The subjects signed an informed consent document and were screened for medical problems, use of medication and drugs, etc. All subjects had previously taken Levenson's locus of control scales during a regular class session at least one month before the experiment began.

##### *Apparatus*

A Narco BT1200 cardi tachometer in conjunction with a Stoelting Multigraph and standard EKG electrodes were used to measure and record heart rate. A Stoelting plethysmograph transducer was attached to the subject and used as a sham measurement device (called an electroneograph) during the false feedback condition. A Sony videotape recorder and camera were used to provide visual feedback via a 19-inch black and white TV monitor placed six feet in front of the subjects.

##### *Instruments*

Levenson's (1974) Internal, Powerful

Others, and Chance locus of control scales were used. The three scales can be scored independently of each other, and the range of possible scores for each is 0 to 48. The scales were presented to the subject as a single scale with 24 items. There are 8 items composing each of the scales. The items are answered on a 6-point Likert-type scale from strongly agree to strongly disagree.

A self-report questionnaire was designed in order to assess how the subject felt during the session, how he felt when it was over, and what strategies he used while trying to control the physiological process. Each of these questions was answered with a short paragraph.

##### *Procedure*

The subjects were divided into high and low Internals on the basis of their Internal Scale scores administered one month earlier and were then randomly assigned in equal numbers to one of three conditions for the remainder of the experiment. The first condition (Success) consisted of a group which received false visual feedback indicating that they were doing well and succeeding on the task. The second group (Failure) received false visual feedback indicating that they had no control over the task and were doing poorly. This feedback procedure constituted the induced helplessness condition. The third group (Control) received the same instructions as the other two groups, but received no feedback.

The experiment was divided into five sessions of 30 minutes each on five consecutive days. The first session was designed to allow adaptation of the subjects to the equipment and procedures which were to be used in later sessions. They were connected to the cardi tachometer and plethysmograph and told to relax. After five minutes the experimenter entered the room and the subject was interrupted for two minutes while the experimenter conversed with him about neutral topics. In later sessions these interruptions would be used to provide verbal feedback appropriate to the subject's experimental condition. This pattern of relaxation and interruption continued for 30 minutes. A baseline heart rate was measured and re-



corded during this session. Also, during this session, the experimenter was blind to the subjects' assigned condition, locus of control orientation, and the order in which he would receive the increasing and decreasing heart rate instructions.

Electrorheography was chosen for the sham task because it was unfamiliar to the subjects and, as far as they were concerned, unrelated to heart rate. In the first task (sessions two and three) the bogus electrorheographic feedback was in the form of a mean heart rate measured in beats per minute. In the second task (sessions four and five) actual heart rate feedback was presented in the form of beat-to-beat heart rate measured in beats per minute. This difference in mode of presentation was necessary to help insure that the subjects perceived the experiment as consisting of two separate and distinct tasks.

In the second session the subjects were attached to the plethysmograph and told to relax for ten minutes during which a baseline was to be taken for their "electrorheographic" output. Following the baseline there were three trials which lasted for five minutes each with a two-minute rest period between each trial. As previously mentioned, this rest period was used for the experimenter to give verbal feedback appropriate to the subject's experimental condition. Within each condition, subjects were randomly assigned in equal numbers either to a group that was told to increase their electrorheographic output or to one which was told to decrease it. The order of performance of these tasks was counterbalanced in the following session. The self-report questionnaire was given to all subjects after this and each of the remaining sessions. During this and all following sessions the experimenter remained blind as to the locus of control orientation of each subject.

In the third session the procedure was the same as in the second. In addition to the self-reports, Levenson's locus of control scales were readministered at the end of this session.

In the fourth session all of the subjects were told to relax and their heart rates would be monitored for ten minutes.

Then half of the subjects were randomly assigned to a group which was asked to increase their heart rate and half to a group asked to decrease heart rate. The order of performance of these tasks was counterbalanced in the following session. There were three trials of five minutes each with two minute rests between each trial. No verbal feedback was given during these rests. Actual visual feedback was given to the subjects via videocamera monitoring of the multigraph record. Self-reports were administered after the session.

In the final session the procedure was the same as in the previous session. Again, self-report forms were given to the subjects at the end of the session. Subjects in the two false feedback conditions were partially debriefed after the last session. All subjects had a scheduled complete debriefing when the data analysis was completed.

The analysis of all heart rate data was done in terms of change scores (mean baseline heart rate — mean heart rate for each trial). Measurements were made and recorded every 15 seconds during both baseline and trials sessions. The last two minutes of each 10-minute baseline period was used in determining the mean baseline heart rate. The validity of the use of change scores is discussed and supported by Overall and Woodward (1975).

### Results

The scores on the Internal ( $\bar{X} = 35.5$ ; Median = 33.0), the Powerful Others ( $\bar{X} = 16.8$ ; Median = 17.0) and the Chance ( $\bar{X} = 15.4$ ; Median = 17.0) Scales were divided at the median into high and low groups.

### Order Effects

The data were initially examined for any effects due to the order of presentation of the increasing and decreasing heart rate sessions. Independent analyses of variance were used to analyze possible order effects for both the increasing and decreasing conditions. The factors in the decreasing condition were (a) Conditions (Success, Failure, Control), (b) Order of presentation (increase first and increase second), (c) Trials (1, 2, 3). The de-

pendent variable was the change in heart rate measured in beats per minute. There were no significant order effects for the decreasing heart rate trials, however, there was a significant main effect of order in the increasing trials,  $F(1,18)=9.68$ ,  $p < .01$ . Those who increased first had a higher heart rate change score ( $\bar{X}_{\text{change}} = 2.28$ ) in all conditions than those who increased second ( $\bar{X}_{\text{change}} = -1.70$ ). This finding indicates that in the increase task, those who increased first were able to achieve significantly greater changes in heart rate than those who increased second. Those who increased second actually decreased their heart rate when they tried to increase it. This greatly confounded the results of the increasing trials, which were of marginal practical interest and will not be further reported here.

#### *Effects of Learned Helplessness*

The data for the task in which the subjects were attempting to decrease their heart rate were analyzed using three  $3 \times 2 \times 3$  analyses of variance with repeated measures on the third factor. The factors were (a) Conditions, (b) Locus of Control, and (c) Trials (1, 2, 3). There were no significant findings in the analysis using Internal and Powerful Others Scales as factor B. There was a significant  $A \times B$  interaction,  $F(2, 18) = 6.28$ ,  $p < .01$ , when the Chance locus of control was used as factor B. Comparisons of means were made using the Newman-Keuls procedure. As predicted, the high Chance subjects in the Failure (helplessness) condition were able to decrease their heart rate significantly more than the low Chance subjects. Conversely, in the Success condition the low Chance subjects performed significantly better than the high Chance subjects. The high Chance subjects in the Failure condition ( $\bar{X}_{\text{change}} = -2.48$ ,  $SD = 3.4$ ) decreased significantly better than both the low Chance subjects in the Failure condition ( $\bar{X}_{\text{change}} = 4.27$ ,  $SD = 2.46$ ) and the high Chance subjects in the Success condition ( $\bar{X}_{\text{change}} = 4.20$ ,  $SD = 6.04$ ) at the  $p < .05$  level. The low Chance subjects in the Success condition ( $\bar{X}_{\text{change}} = -3.13$ ,  $SD = 4.05$ ) also decreased significantly better than both the low Chance subjects in the Failure condition and the

high Chance subjects in the Success condition at the  $p < .05$  level (See Figure 1). There were no significant differences between high and low Chance subjects in the Control condition.

#### *Changes in Locus of Control*

The hypothesis that subjects in the learned helplessness condition would score lower on the post-manipulation Internal Scale score was not supported since there were no significant differences in locus of control scores from pre- to post-experimental manipulation. This hypothesis was tested with correlated  $t$  tests. The means for the post scores were Internal = 33.0, Powerful Others = 19.0, and Chance = 16.9. The means for the pre scores have been noted previously.

#### *Discussion*

Since the task involved mainly non-contingent reinforcement, it may have been anticipated that the Chance locus of control orientation would be the most salient discriminator. This proved to be the case since the results revealed that the Chance Scale alone was able to discriminate between groups in the experimental manipulation. This adds a great deal of validity to Levenson's multidimensional approach to locus of control. If a traditional Internal-External scale had been used it is very probable that the rather striking differences between the groups based on locus of control orientation may have gone undetected.

Probably the most clinically useful finding of this study involves the Chance locus of control orientation in the sessions where subjects were attempting to decrease their heart rates. The ability to decrease one's heart rate has obvious applications in the treatment of hypertension, anxiety, and many other related problems. The present results suggest that certain kinds of feedback (success or failure) in the early stages of biofeedback treatment can enhance the ability of individuals with different locus of control orientations (low and high Chance) to decrease their heart rates.

The results can be explained within the context of the learned helplessness paradigm. Phares (1971) found that externals tend to devalue a task after failing it be-

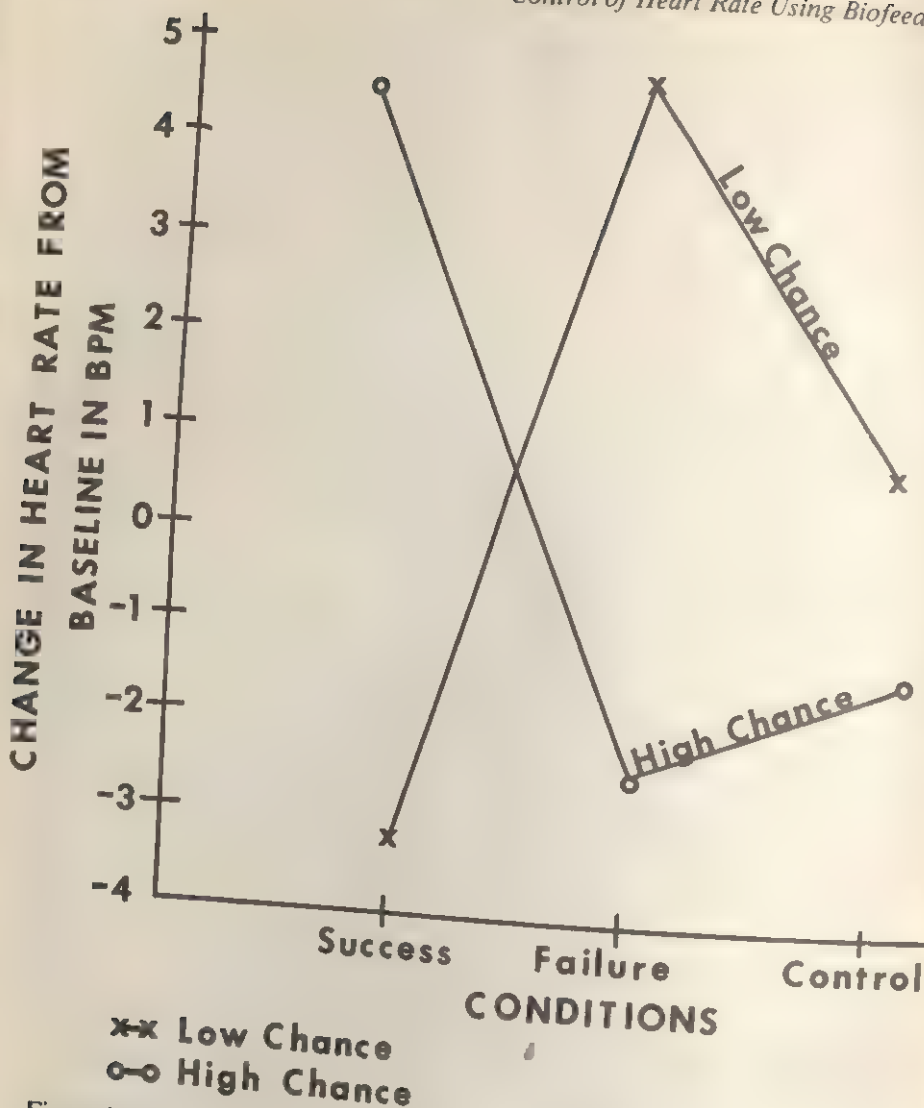


Figure 1. Change in heart rate from baseline in the heart rate decrease condition.

cause they do not take responsibility for the failure themselves, but attribute it to other causes. Internals do attribute failure to themselves and are presumed to be unable to devalue it. Roth and Kubal (1975) found that as the importance of the task increased, the effects of learned helplessness increased. This was not true, however, after a success situation. The success experience essentially immunized the subjects against the effects of learned helplessness on the later failure task. These find-

ings would explain why the high Chance group did better on the task when attempting to decrease their heart rate in the helplessness situation than the low Chance group and why this was not the case in the Success condition.

One of the major hypotheses of the present study, the hypothesis that high Internals would not be as affected by the learned helplessness manipulation as the low Internals, was not supported. One explanation of why the results were not



as predicted is the possibility that some of the subjects who scored low on the Internal Scale could be classified as "defensive externals." Hochreich (1974) elaborated on Rotter's (1966) concept of defensive externals. It is hypothesized that a defensive external behaves in an internal fashion in some conditions and in an extremely external manner under other conditions. The defensive external is defined as an ambitious, achievement-oriented individual who habitually falls back on blame projection and external attitudes whenever failure is encountered or seems probable. This description could easily fit an undergraduate college male. Defensive blame projection could greatly reduce the level of anxiety experienced by the subjects, and thus negate or at least reduce the effects of the learned helplessness manipulation.

Another of the hypotheses, that the Internal Scale scores of subjects in the helplessness condition would be decreased following exposure to the sham failure biofeedback experience, was not supported. One of the possible reasons for the absence of significant results regarding this hypothesis is the fact that the subjects received verbal reinforcement of their failure situation. A recent study (Quijano, 1975) found that, among externals in both success and failure situations, there was a significant shift in locus of control orientation among subjects who received no verbal reinforcement of their situation, but there was no significant shift among those subjects who received verbal reinforcement of their situation. Pertaining more specifically to the hypothesis being examined, Quijano found that subjects in a failure situation whose failure was verbally reinforced displayed no significant change in locus of control scores after the experimental manipulation. He also found that those subjects who received no verbal reinforcement and were allowed to observe the contingencies unaided displayed a significant increase in externality after the experimental manipulation. All subjects in the present study were given verbal reinforcement of their situation, and this could account for the absence of a shift in locus of control following the learned helplessness

situation.

### *Future Research*

Although some research has been done in the area of differential control of heart rate due to sex differences (Zimmermann & Blankenstein, Note 3), it would be interesting to examine the interaction of sex and locus of control on ability to control heart rate and other physiological processes. Future research should be directed toward a more extended training period. This would allow more transfer into practical application of the results since in a therapeutic setting a longer training period is often used. It would also be useful to search for an optimum training period after which relatively little benefit is gained from further training.

It would be of clinical interest to investigate whether a certain type of feedback is more effective with a certain locus of control orientation. It might be more productive to use accurate, success, or failure feedback at different stages of heart rate training with certain locus of control orientations. The use of different types of feedback in conjunction with different locus of control orientations would be valuable in attempting to control other physiological processes. It would be essentially a test of the generalizability of the results of this study to other modalities of biofeedback research.

Another relevant variable which could be considered in biofeedback research is field dependence vs. field independence. It seems plausible that there would be a differential ability to process biofeedback information based on this variable. If this proved to be the case, it would be interesting to test different training procedures to see if a person's field dependence or independence can be significantly influenced.

One final consideration is the possibility of examining subjects on the basis of more than one locus of control dimension simultaneously. It appears that much valuable information could be gained from this approach.

### *Reference Notes*

1. Hiroto, D. S. *Validation of the learned helplessness hypothesis with humans*. Paper presented at the annual meeting of the American Psychological Association, 1972.



2. Levenson, H. *Reliability and validity of the I, P, and C Scales - A multi-dimensional view of locus of control*. Paper presented at the American Psychological Association Convention, Montreal, August, 1973.
  3. Zimmerman, J., Blankenstein, B. S. & Blankenstein, K. R. *Sex and tonic heart rate differences in the ability to control heart rate*. Paper presented at the 6th Annual Biofeedback Research Society meeting, 1975.
- References
- Dweck, C. S. The role of expectations and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology*, 1973, 25, 35-44.
- Glass, D. C., Singer, J. E., Leonard, H. S. Krantz, D., Cohen, S., & Halleck, C. Perceived control of aversive stimulation and the reduction of stress responses. *Journal of Personality*, 1973, 51, 577-595.
- Hiroto, D. S. Locus of control and learned helplessness. *Journal of Experimental Psychology*, 1974, 102, 187-193.
- Hiroto, D. S., & Seligman, M. E. P. Generality of learned helplessness in man. *Journal of Personality and Social Psychology*, 1975, 31, 311-327.
- Hochreich, D. J. Defensive externality and attribution of responsibility. *Journal of Personality*, 1974, 42, 443-447.
- Levenson, H. Multi-dimensional locus of control in psychiatric patients. *Journal of Consulting and Clinical Psychology*, 1973, 41, 397-404. (a)
- Levenson, H. Perceived parental antecedents of internal, powerful others, and chance locus of control orientations. *Developmental Psychology*, 1973, 9, 260-265. (b)
- Levenson, H. Activism and powerful others: Distinctions within the concept of internal-external control. *Journal of Personality Assessment*, 1974, 38, 377-383.
- Overall, J. E., & Woodward, J. A. Unreliability of difference scores: A paradox for measurement of change. *Psychological Bulletin*, 1975, 82, 85-86.
- Overmier, J. B., & Seligman, M. E. P. Effects of inescapable shock upon subsequent escape and avoidance responding. *Journal of Comparative and Physiological Psychology*, 1967, 63, 28-33.
- Phares, E. J. Internal-external control and the reduction of reinforcement value after failure. *Journal of Consulting and Clinical Psychology*, 1971, 37, 386-390.
- Quijano, W. *The effect of success in a behavioral task and verbal feedback on perceived locus of control*. Unpublished doctoral dissertation, University of Hawaii, 1975.
- Ray, W. J. Jr. The relationship of locus of control, self-report measures, and feedback to the voluntary control of heart rate. *Disertation Abstracts International*, 1971, 31, 4226-B.
- Roth, S., & Bootzin, R. R. Effects of experimentally induced expectancies of external control: An investigation of learned helplessness effects. *Journal of Personality and Social Psychology*, 1974, 29, 253-264.
- Roth, S., & Kubal, L. The effects of noncontingent reinforcement on tasks of differing importance: Facilitation and learned helplessness effects. *Journal of Personality and Social Psychology*, 1975, 32, 680-691.
- Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 1966, 80, (Whole No 609).
- Seligman, M. E. P., & Maier, S. F. Failure to escape traumatic shock. *Journal of Experimental Psychology*, 1967, 74, 1-9.
- Wagner, C., Bourgeois, A., Levenson, H., & Denton, J. Multi-dimensional locus of control and voluntary control of GSR. *Perceptual and Motor Skills*, 1974, 39, 1142.
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## Book Reviews

**George W. Albee and Justin M. Joffe.** (Eds.). *Primary Prevention of Psychopathology, Volume I: The Issues.* Hanover, New Hampshire: 1977, 426 pages, \$20.00.

*Reviewed by Katharine Beardsley*

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*Her interests include training of mental health personnel, manpower development, and evaluation of manpower programs.*

In both private and public sectors, prevention is emerging as a major priority in the national health effort. While there is still some question as to the operational meaning of the term "prevention," the definition given by Gerald Caplan (*Principles of Preventive Psychiatry*, 1964) is used in many instances as a starting point. In the public health arena possible prevention goals are being articulated: promotion of general health, protection against specific disorders, prevention of negative consequences of disorders, and prevention of high-risk group behavior.

The current volume is the first of a projected series focusing on primary prevention in the area of psychopathology, a task which so far has proven stubbornly resistive to many efforts. It sets forth the issues surfaced in a set of papers presented at a privately funded conference in the early 1970s. This conference was organized and administered by the Department of Psychology faculty of the University of Vermont with support and collaboration of James and Faith Waters Foundation. A major purpose of the conference was to focus on a variety of approaches to preventing the appearance of disturbed behavior through intervention affecting large numbers of people, particularly persons at risk. Volume II, based on a second 1976 conference on the subject, is now in preparation. Subsequent ones are in the planning stage.

In identifying issues in primary prevention of psychopathology, this volume endeavors to put the mental health aspects of prevention into some kind of focus, a task which needs being done. The first conference is designed to provide a generalized background for more

specialized approaches which will follow. In doing this, the conference planners attempted to enlist persons representing a diversity of approaches to the subject. The papers presented reflect a mix of theoretical and practical, conventional and unconventional approaches. While genetic and biological factors are considered, the importance placed on childhood origins of psychopathology is reflected in a heavier emphasis on papers concerned with interventions in childhood.

Where mental illness has a definable organic cause, things can be done to prevent the occurrence of the disease. The difficulty arises when mental and emotional problems are not "diseases," but learned patterns of social maladjustment and emotional distress. Here the issues are less clear-cut and involve empirical relationships between early experience and later disturbance which are as yet virtually undefined and unexplored.

The papers included in the volume cover a wide range: introductory issues including the current state of the art, and definitions of primary prevention; genetic, prenatal and perinatal factors; identifying high risk children and adolescents and intervening for primary prevention; primary prevention of adult psychopathology; State and Federal efforts; and, finally, improving the quality of life. This last chapter presents the other side of the coin, as it were, exploring measures of self-satisfaction and general well being. The Appendix includes an article on primary prevention written by Marc Kessler and George Albee, appearing in the *Annual Review of Psychology*, Volume 26, 1975, providing an overview of the literature on primary prevention, and an extensive bibliography.

As an attempt at making inroads into a most difficult and complex subject, this book does exactly what it sets out to do, provides a first approximation to more effective approaches.

**Mark D. Altschule.** *The Development of Traditional Psychopathology: A Sourcebook.* New York: Halsted Press, 1976, 330 pages, \$19.75 cloth.

*Reviewed by Richard W. Bloom*

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of psychology at Eastern New Mexico University. He has been a clinical psychologist intern at the Cleveland VA Hospital and a volunteer counselor at Project Place, Boston, Mass. Interests include psychodiagnosis, unconscious processes, and the nature of interpretation.

This source book contains a brief introduction specifying the difficulties of selectively compiling historical material on psychopathology and two lengthier sections with commentary and primary source fragments concerning the development of psychological concepts — structural, dynamic, and developmental — utilized in psychiatric theory and the conceptualization of psychiatric syndromes. Selections range from antiquity, e.g., Hippocrates, to the early 20th century, e.g., Krafft-Ebing, with emphasis on the 18th and 19th centuries. The goal of this sourcebook is to indicate "not only false directions that must still be avoided but also alternatives that, if followed, might have carried us further forward" (p. 1) in conceptualizing psychopathology. This goal is not achieved.

Inappropriate source selection and text organization combined with factual errors, tendentious statements, thematic omissions, and unfortunate word choices frequently disrupt the text's coherence. Regarding selection, a passage from Locke describing the mind during sleep and waking consciousness is termed a rational appreciation of multiple personalities (p. 73); a passage from St. Paul distinguishing two kinds of *tristitia* is termed an intellectual antecedent of psychotic and nonpsychotic varieties of depression (p. 158), whereas the only link appears to be one of conceptual quantity, not substance; a passage from Conolly is indicative of Altschule's bypassing the thorny issue of abnormality definition for mere clinical description (p. 128), cf. Gabel's (1975) treatment of alienation and madness; a passage from Jules Janet follows the commentary that Pierre Janet clearly defined the overriding role of double personalities in hysteria (p. 79), several subsections of primary source fragments and related commentary, e.g., anxiety (pp. 119 ff.), dementia (pp. 222 ff.), and phrenos (pp. 234 ff.), feature etymological detail with little exploration of psychological meaningfulness.

Regarding organization a passage from Maudsley primarily dealing with the general nature of man is placed in a section on process mechanisms and psychiatric symptoms (p. 117); a brief passage from Halsam on thought disorders is not included in the section on this syndrome (p. 103); passages on witchcraft (pp. 203-206) are placed in the section on affective

disorders, thereby belying the primary salience of belief systems; several very long selections by Kraepelin (pp. 258-280) and Pierre Janet (pp. 304-325) follow brief and perfunctory commentary. This sourcebook has no summary section, while the index contains few of the many antiquated words and word forms so effusively presented in Altschule's etymological excursions.

Factual errors include *speculating* that Freud may have read embryologists such as Weismann and Wilson (p. 72) when there are many direct references in his works (e.g., Freud, 1928), validating Lacan's concept of paranoia and terming Freud's explanation trivial (p. 255), while contemporary theorists have essentially discarded the former (cf. Colby, 1977; Freud, 1924, 1925); stating that "physiologic studies of human dreams have all but demolished the idea that they are mere wish fulfillments" (p. 40) and that said theory "has long been regarded with skepticism by biologists, who have known since Lucretius and Buffon (*Birds*, IX, 151) that horses and dogs dream" (p. 40), while the former is simply not true (cf. Kramer, 1969) and the latter would be relished by Lucretius himself (Humphries, 1969); equating neurotic depression with hypochondriasis (pp. 139, 170).

Tendentious statements include omissions implicating clinical psychology as a discipline inferior to psychiatry (pp. vi, 11, 83) and commissions impugning psychodynamic theorists especially Freud. Regarding the latter, it is stated that Freud misinterpreted the Oedipus legend (p. 3), that psychodynamic "superstition" filled the vacuum created when "neuroanatomy finally vanquished phrenology" (p. 9), that acceptance of the ego concept by influential clinicians resembles phrenologic superstition (p. 72), that there is "no evidence" substantiating Freud's concept of anxiety neurosis (p. 290), that Pierre Janet's "remarkable" study of hysteria has never been equaled much less improved upon with Freud as an implied comparison (p. 304). All of the above are *not* accompanied by attempts at substantiation.

Unfortunate word choices include the use of *hysterical* in the lay sense (p. 9), that of mental disorder as synonymous with disease, syndrome, and psychologic reaction pattern (p. 9), and that of "crackpot" (pp. 162, 168) the last introducing personality descriptions that would be labelled more professionally by most clinicians. Thematic omissions include descriptions of abnormal behavior from the arts (p. 3) when it is also stated that "psychiatry has accommodated itself to developments in human institutions and changes in human ideas" (p. 13). Also, extensive etiological considerations are omitted because they



"are unknown," have not changed materially in 2000 years," "are laden with theory and hence speculative," and, "are associated with careless discussion" (pp. 3-4).

In his introduction Altschule states that this sourcebook is not a sequel to the historical reviews included in many 18th and 19th century clinical works which compile material without increasing understanding of psychopathology. Although there are a few selections which provide insight into the evolution of concepts of psychopathology, e.g. a very brief offering from Willis treating hysteria as a psychodiagnosis within a sociological matrix, many sources appear to be chosen arbitrarily as to content and length, while the commentary is disappointingly sparse and dogmatic. One is left with the feeling that inadequate research and care interfered with erudition. This sourcebook is recommended only for its references which are scattered throughout the footnotes.

#### References

- Colby, K. M. Appraisal of four psychological theories of paranoid phenomena. *Journal of Abnormal Psychology*, 1977, 86, 1, 54-59.
- Freud, S. *A general introduction of psychoanalysis*. New York: Liveright, 1924.
- Freud, S. *Beyond the pleasure principle*. New York: Liveright, 1928.
- Freud, S. Psychoanalytic notes on an autobiographical account of a case of paranoia (dementia paranoides). In J. Strachey (Ed.), *The standard edition of the complete psychological works*. Vol. XII. London: Hogarth, 1955.
- Gabel, J. *False consciousness: An essay on refutation*. New York: Harper & Row, 1975.
- Humphries, R. *The De Rerum Natura of Titus Lucretius Carus*. Bloomington, Ind.: Univ. of Indiana Press, 1969. Lines 983-1006.
- Kramer, M. (Ed.). *Dream psychology and the new biology of dreaming*. Springfield, Ill.: Charles C. Thomas, 1969.

**D. B. Bromley.** *Personality Description in Ordinary Language*. New York: John Wiley & Sons, 1977, x + 278 pages, \$19.95.

*Reviewed by Wm. McKinley Runyan*  
Wm. McKinley Runyan received his PhD from Harvard University, and is currently a Research Fellow at the Institute of Human Development, U. of California, Berkeley, and a Lecturer in Psychology at the U. of California, Santa Cruz. His major interests are in the study of life histories, predictions about the course of lives, and evaluation research.

The two major aims of this book are (1) to provide a wider and more useful set of con-

cepts for studying personality through an analysis of personality descriptions in ordinary language, and (2) to outline a logic for the study and interpretation of individual cases. In my personal opinion this analysis of the logic of case studies is an important contribution, and is highly recommended for scientists or practitioners concerned with the study or assessment of individuals. Several subsidiary tasks are also undertaken, such as sketching a general theory of personal adjustment, and contrasting the case study method with characterization in fiction. After briefly outlining the contents of the book, this review will return to a more detailed discussion of Bromley's work in relation to his two major goals.

The first chapter summarizes earlier related research by Livesley and Bromley (1973) on the development of person perception in childhood and adolescence. In short, older children provided relatively longer, more organized, abstract, and objective (socially shared) descriptions of others, with a greater emphasis on covert characteristics. The second chapter argues that personality descriptions are more complex than a list of traits or phrases, and examines sentence structures in personality descriptions and the structure of argument in personality descriptions. The third chapter critically reviews Allport and Odbert's (1936) classic monograph on trait names, and argues that a psychometric approach to the measurement and correlation of traits is a limited and incomplete approach to the broader issues of personality assessment.

The fourth chapter contains theoretical analyses of the concepts of *trait* and *motive*, and then outlines the research method used in the study. Chapters 5 through 7 outline 30 content categories of information found in adults' descriptions of other persons. Chapter 8 describes a "quasi-judicial" method as a systematic approach to the study of individual cases. Chapter 9 sketches a general theory of personality and adjustment, and Chapter 10 analyzes the language of personality description in fiction, and compares the description of personality in novels and in scientific case studies.

*Personality Description in Ordinary Language.* What can be learned from the study of personality description in ordinary language? What is the rationale for such an endeavor? One view is that whoever

should do nothing but examine the words and phrases which deal with the human soul, should know more about it than all the sages who omitted to do so, and would know perhaps a thousand times more than has ever been discovered by observation, apparatus, and experiment upon man (Klages, 1929, p. 1).

On the other hand, just as it would be unwise



to base a science of astronomy upon the folk wisdom of astrology, or chemistry upon alchemy, there is no reason to expect that a science of personality can be based in any direct way upon folk knowledge of personality. An intermediate view, espoused by Bromley, is that there may be things we can learn from the study of personality descriptions in ordinary language which might make our scientific analyses of personality more flexible and useful, particularly in light of the wide-spread dissatisfaction with the accomplishments, and even the direction, of much of contemporary personality psychology.

Bromley's method was to study 20 women and 20 men in each decade from the 20s to the 70s, providing a total of 240 subjects. Subjects were asked to think of a person they knew well in each of eight categories, such as, "A man I like," "A girl I dislike," etc., and "to write an account of that person, i.e. to say what sort of person he (or she) was" (p. 88). This yielded 1,920 descriptions of others, plus 240 self-descriptions. Descriptions averaged five sentences, or 100 words in length.

The central portion of the book outlines 30 content categories, which are intended to provide an exhaustive classification of the contents of personality descriptions in ordinary language. These 30 categories are broken down into (a) 9 "internal aspects of personality," with categories such as general trait, motivation and arousal, and self-concept, (b) 9 "external aspects of personality," such as physical appearance, contemporary situation, and actual incidents, and (c) social and others aspects of personality, e.g. family and kin, comparison with others, and subject's response to the stimulus person.

Each category is well illustrated with examples from the sample of personality descriptions. However, the most basic quantitative data on differences in descriptions by age or sex of subjects, or by characteristics of stimulus persons, are not reported, nor is information on reliability of coding. After paying \$19.95 for this book, it was frustrating to hear numerous times throughout the text that many of the analyses that could be made with the data will be reported in other publications. In some respects, I had the feeling of having bought a conceptual crust without the empirical filling. Yet the conceptual framework does seem a valuable one, particularly in expanding our notions of what might be incorporated in scientific analyses of personality.

*The Psychological Case Study.* Bromley presents a "quasi-judicial" method of psychological case study as a model of "ideal standards of rational and empirical inquiry in the

study of individual cases" (p. 164). Case studies are often carried out in a sloppy and perfunctory manner, and it is hoped that a rigorous analysis of the logic of case studies "may help to rehabilitate a sadly neglected scientific method" (p. 164).

To summarize Bromley's argument, a case study is undertaken in response to a problem in understanding, and/or a problem requiring practical action. A case study is a reconstruction and interpretation of part of a person's life, based on a synthesis of evidence obtained from all available sources, including interviews, projective or objective tests, observations in the natural environment, personal documents or public archives, the testimony of others, experiments, or any other method capable of producing relevant information.

The procedure for conducting case studies is a "quasi-judicial" one, similar to methods developed in law for collecting evidence, examining it, and testing the credibility of inferences and theories drawn from the evidence. A case study can not be expected to tell the whole story, because the whole story is overwhelmingly complex and detailed. A more appropriate goal is to tell the story in such a way that the omitted information "makes little or no difference to understanding the main structure of the events under consideration and their causal relationships" (p. 165). The inquiry is focussed on a small number of issues pertaining to the person and their circumstances, and organized around the critical examination of evidence and arguments related to these issues. The development of arguments and the collection of evidence proceed in an interacting sequence until a satisfactory interpretation or plan of action is reached (or until the alternative lines of argument, sources of evidence, and interested parties are exhausted).

Bromley presents six rules and ten procedures to follow in preparing case studies, as well as a 10-section outline for the case report, showing how each of the 30 previously identified categories of personal information might be incorporated into a case report. Many of these recommendations seem reasonable, yet this section could have been strengthened by discussing the procedures suggested and utilized by earlier students of the single case, such as Allport, Chassan, Davidson and Costello, Dollard, Herbst, and Shapiro. Unfortunately, for reasons of space, the author does not provide a case study employing these rules, although states they have been effectively used by his students in preparing case reports. In further research, it would be valuable to examine case studies composed with these rules, and to compare their persuasiveness, cost, and

utility with case studies prepared according to different formats, or without any explicit guidelines.

In conclusion, this book is interesting, and it covers important territory. In spots, however, it is thin or disappointing, as in a proposed theory of personal adjustment, or in its failure to report quantitative analyses of the available data. Its major contributions are an outline of 30 categories of information contained in personality descriptions in ordinary language, and an outstanding discussion of a quasi-judicial logic for the study of individual lives. I have not read a more compelling analysis of the logic of the idiographic method, and Bromely's chapter on "The Psychological Case Study" is recommended for any scientists or professionals engaged in the study and assessment of individual lives.

#### References

- Allport, G., & Odbert, H. Trait names: A psycholexical study. *Psychological Monographs*, 1936, 41, 1-211.
- Klages, L. *The science of character*. London: Allen & Unwin, 1929, (trs. 1932).
- Livesley, W., & Bromley, D. *Person perception in childhood and adolescence*. New York: Wiley, 1973.

**Jerome S. Bruner, Alison Jolly and Kathy Sylva.** *Play — Its Role in Development and Evolution*. New York: Basic Books, 1976, 716 pages, \$20.00.

*Reviewed by Sidney Selig*

*Dr. Selig, educated in England, Canada, and the USA, holds an MA in clinical psychology from the University of Detroit and an EdD with a major in psychology. Professionally, he is principal of the Hillel School in North Miami Beach, Florida, and his private practice involves child, adolescent, and family psychotherapy. Dr. Selig has written on moral development of children, replicate studies of the theories of Piaget and Kohlberg. Dr. Selig is completing a cross-generational study on familial hypokinesia.*

This many-paged book brings together a body of literature emphasizing the crucial role of play in the development of the human child as well as in the evolution of the primate order. Articles are included from animal or human behavior journals; from foreign language articles translated and presented for the first time and which explore the evolutionary trends in the primate order and in the play of human beings. There are instances of comparative treatment approaching a parallelism throughout the primate order and the emergence of symbolic play which results in a striking discontin-

uity in play patterns that emerge when language becomes a factor. The authors stress that play, whatever its nature, must be thought of not only in an evolutionary prospective, but also in relation to the adaptation of a particular species (page 21). The authors elucidate the rich connection that exists between play and human culture. The authors exclude much of literature on play therapy and on psychoanalytic interpretations of play. The reason is given that the psychoanalytic interpretation of play and play therapy doctrines are by now part of the common culture. The authors have attempted to collect papers in this volume for the professional reader of human and animal behavior as well as for the general reader. However, it is hard to perceive how the general reader could enjoy all this almost overwhelming material. This book clearly takes away all notion of enjoyment from play. It is a much too serious matter.

The book is divided into four parts. Part 1 — the evolutionary context. Part 2 — play and the world of objects and tools. Part 3 — play and the social world; and Part 4 — play and the world of symbols.

The role of mothering appears to be significant. On mothering-play (page 379), the authors suggest that there is no doubt if a human female is to be a truly effective mother, she must derive some kind of satisfaction from body contacts with her baby. Nursing, cradling, and carrying must be positively motivated from within if the infant is to develop normally with a feeling of security. Perhaps more attention should be paid to what young girls are learning when they are playing with infant siblings or with their dolls, activities which seem to be universal. The authors question how important is this play in the development of maternal behavior patterns? Is it possible that there may be a kind of optimal period before puberty in which the emotional attitudes towards infants are first established? The authors state (page 380) that we know something about cultural differences in ways that children are socialized in various societies but we know almost nothing about what important biological forces underline the development of maternal behavior patterns in all human societies. This may be a professional challenging area of research and assessment including those interested in projective techniques of the child and the early adolescent.

On page 401 calling for the player with a certain power from whom the other players must flee or hide is an interesting name-calling game. This player is viewed as the "Evil One." The players fear even to pronounce his name. In a Sussex parish, the devil was always spoken of as 'he' or as 'O Harry' or 'Old Nick.' Is there

a relationship between "Old Nick," i.e., the Evil One — the devil — and St. Nicholas? The authors (page 454) list theories on games. A 'challenge' theory of play is proposed that allows each player to 'challenge' using his abilities at that time, while still leaving the outcome of a game sufficiently undetermined. How are games known by the next generation if it has never played before; or why are games played again from generation to generation almost on a cross-cultural basis is questioned and partially answered. A 'cathartic' theory of play which lays heavy stress on its function in reducing anxiety by giving the child an opportunity to reduce symbolically, conflicts which he is not able to successfully cope with in real life. The articles on monkeys without play (page 494) records the consequences of lack of play in the development of monkeys, which usually appears to be spontaneous, carefree and frivolous, but is actually one of the most important aspects of their social development. In a zoo, stroll over to the monkey island and revel in the playful antics of man's evolutionary cousins. Pity the monkeys who are not permitted to play, and pray that all children will always be allowed to play.

The authors, as they do from time to time, record feelings or summaries of data in a professorial manner. Parsimonious definitions for the freshman but it is, to say the least, somewhat cumbersome:

Observational learning can be viewed as a joint sensory-motor process in which the conceptual encoding of sensory events leads to inferential knowledge of events and their reinforcing properties and to the formation of hierarchically organized motor control systems called schemas that enable the observer to replicate behavior observed in others in the appropriate environmental context (p. 626).

Language evolved after the establishment of primates of at least nonsystematic conceptual knowledge. The comparative evidence seems to support the position that lack of language forms an insuperable barrier to evolutionary accounts of human behavior. There are no natural communication systems intermediate in complexity between language and nonlanguage among man's living primate relatives. However, arguments are developed in this section that lend themselves to experimental verification. Object play of nonhuman primates may be the appropriate model system for the phylogenetic study of human language. Further, Greenfield et al., 1972, found that object play and language development in the human child and the hypothetical psychological equivalents between sounds and objects under certain conditions, can be investigated in both man and animals.

Perhaps an answer will be found, with further data, to this and other more fundamental questions bearing on the evolutionary precursors of human behavior.

The authors do provide what they stated: A selection of prime literature on the crucial roles of play in the development of the human child and its importance in the evolution of primates. Any reader can obtain sufficient knowledge and information from this book so that whether a parent, counselor, teacher, or therapist, one may learn to accept the child's play, words and action, with respect for the style, peculiarity and form of expression and of being.

**Merna Dee Galassi and John P. Galassi.** *Assert Yourself: How to Be Your Own Person.* New York: Human Sciences Press, 1977, 237 pages.

*Reviewed by Norris D. Vestre*

*The reviewer received his PhD in clinical psychology from the University of Minnesota. Currently, he is Professor of Psychology at Arizona State University where he teaches courses in abnormal psychology and cognitive behavior modification. In addition, he supervises clinical psychology graduate students in clinical practicum.*

This manual is intended for a variety of uses. First, it is proposed as a self-help manual where the program constitutes the entire basis for treatment. It is also proposed as a program where clients have regular and frequent contact with a therapist. Presumably some intermediate amount of contact (infrequent meetings, phone contacts) could also be a use of such a manual. Finally, the manual is intended for trainees as a guide for developing training programs.

The first chapter is an excellent presentation of fundamental concepts of assertiveness and assertiveness training. This chapter is a concise and, by and large, well organized overview of basic ideas of philosophy and rationale, and guides and suggestions for the use of the manual. Along the latter dimension, procedures and training strategies are clearly spelled out. One of the major strong points of this manual is the arrangement in module form (discussion modules and exercise modules). This has a distinct and useful advantage for the user whether he/she would be using it in a self-administered manner or as a "textbook" in assertiveness training groups.

One concern needs to be mentioned regarding the organization of this manual. It would



seem that assessment of one's own behavior in terms of the assertive-nonassertive dimension (as requested in Exercise Module 1) should come after the provision of a fuller understanding of a more complete description of that dimension (as provided in Discussion Module 2). This is important because many individuals do not recognize or are unaware of some of their nonassertive or aggressive behaviors.

A particularly noteworthy aspect of the manual is the emphasis on cognitive restructuring as an important component of assertiveness training. Counterproductive or erroneous beliefs often associated with various assertive behaviors are described. These include beliefs about how one should behave or appear to others or about probable consequences, or about rights and responsibilities. A general paradigm is presented for challenging these beliefs. It is also encouraging to note the strong emphasis which is placed on homework assignments and the need for practice.

In summary, this is a very complete and comprehensive manual. It is a worthy addition to assertiveness training manuals and to self-help treatment manuals.

**W. Doyle Gentry.** *Geropsychology: A Model of Training and Clinical Service.* Cambridge, Mass.: Ballinger, 1977, 137 pages, price not given.

#### **Clinical Psychology for the Aged**

*Reviewed by John R. Barry*

*John R. Barry received his PhD in clinical psychology from Ohio State University. He has taught at the Universities of Florida, Illinois, and Pittsburgh. He teaches courses in personality assessment and the psychology of aging. He co-edited a reader in social gerontology. "Let's learn about aging." Currently he is Professor of Psychology at the University of Georgia.*

This is a report of a two-day conference in June 1974, designed to examine the role of clinical psychology in mental health programming for the aged. The conference was funded by the Administration on Aging and sponsored by the Duke University Center for the Study of Aging and Human Development. A great many of the contributors to the book were trained or working at the Duke Center.

In the first two chapters Leonard Gottesman and Robert Kahn separately described

the need for clinical psychological contributions to the mental health of the elderly. Gottesman listed several roles which clinical psychologists might play in enhancing the mental health of the elderly. The specifications of those roles were related to the unmet mental health needs of the aged. Robert Kahn documented the lack of adequate mental health care for the elderly and focused upon clinical psychologists as a major resource in this area. These two chapters together set the stage for a discussion of how clinical psychology might help to fill the growing need for mental health services to the elderly.

In the next chapter Cautela and Mansfield describe specific applications of behavioral approaches to problems of the elderly. Such techniques as relaxation, desensitization, thought stopping, covert extinction, etc. are mentioned and their specific applications to the elderly are illustrated. For those *not* familiar with these techniques this chapter will introduce the reader to them and refer him/her to further descriptive information about these techniques. However, this 21-page chapter by itself is not sufficient to enable the reader to apply these methods without being already knowledgeable about them.

The next chapter discusses psychodiagnostic assessments of intellectual functions and organicity among older clients. The use of the Rorschach, the MMPI, and a thematic apperception test are briefly discussed in a section on personality assessment in this chapter. This 6-page section only introduces the reader to some literature about these approaches. The chapter does *not* deal comprehensively with personality assessment. The chapter concludes with a brief discussion of ecological assessment which introduces the reader to these concepts and refers him/her to richer sources for a broader understanding. The bibliography of 113 items for this chapter seemed dated. Half were published before 1963; only 12 were dated after 1970.

In chapter 5 the psychological theory of C. G. Jung was described and compared to other theories with reference to implications for the elderly. Jung's theory was described as "a preparation for death" and compared with Freud's theory which was called "a preparation for life." After making this point and describing briefly Jung's theory, the author did not try to demonstrate the applicability of Jung's theory to the aged person in any specific sense.

In chapter 6, the psychology of aging was described in life-span terms. The author discussed methodological issues in measuring psychological changes over time. She discussed changes in sensory systems and intellect-



ual functioning with age. This chapter was a good, although brief, description of the usual content in a traditional psychology of aging course.

In chapter 7, an attempt was made to discuss community psychology for the aged. The history of community psychology and its relation to community mental health were described. However, the specific relationships of the materials in this chapter to the elderly were not emphasized consistently nor concretely. In most of the places where reference was made to the aged, one could substitute the name of any disabled group, e.g. the retarded, without distorting the meaning of the section. This reviewer would have appreciated more discussion of how community psychology might be expected to affect the lives of older persons.

The last chapter was a good summary of what had gone before. It described briefly a curriculum for a clinician in gerontology. The title of this chapter "Clinical Gerontology: A Proposed Curriculum" referred to formal courses and training procedures in clinical gerontology and was contrasted with the preceding, much more general chapter. June Blum, the author of this chapter, proposed that training be focused upon prevention, intervention, and rehabilitation. She emphasized the increasing variability among elderly persons as they grow older. She urged that this increasing uniqueness of older persons be recognized and that each elderly person be treated as an individual, emphasizing his individual characteristics. Although quite brief, this chapter is one of the best in the book.

Overall the homogeneity of the authors' backgrounds probably led to a homogeneity in viewpoints. There seemed very little to argue with in this brief book. It should be useful as an introduction to how clinical psychology might contribute more extensively in the mental health area. The book will be useful to non-psychologist helpers who wish to find out what clinical psychology can offer in the area of mental health of the aged. A second potential audience might be psychology graduate students who are considering work in geropsychology. For both of these groups the book is a very cursory introduction and does not provide sufficient information to actually perform in this area.

On page x it is stated that the intended audience is clinical psychologists in the field of aging. However persons already in the field of aging will probably be aware of most of the ideas and concepts referred to in this book. Two other purposes of the book (also cited on page x) were to present an *innovative* community mental health program of geropsy-

chology and to examine the impact of psychological treatment programs for the aged. In my opinion the models which were mentioned were not innovative nor were treatment programs for the aged evaluated to any degree. Rather the book is a brief and simple summary which describes some of the things which clinical psychologists do in their work with the elderly.

**Norma Haan.** *Coping and Defending: Processes of Self-Environment Organization.* New York: Academic Press, 1977, (xiv) 346 pages.

Reviewed by A. I. Rabin

*The reviewer is professor of psychology at Michigan State University and former director of its psychological clinic. He also taught at the City University of New York, and at several universities in Israel and Denmark. He published widely in the areas of personality development and assessment, clinical psychology, and psychopathology. His latest edited book on "Clinical psychology: Issues of the seventies" was published by Michigan State University Press, in 1974. Rabin was consulting editor of the Journal of Consulting and Clinical Psychology and is currently consulting editor of the Journal of Personality Assessment.*

Since the original publication of "the coping functions of the ego mechanisms" and the "proposed model of ego functioning" (Haan, 1963; Kroeber, 1963) a fair amount of research and publication based on these schematic presentations has appeared in the periodical literature. The psychologist who was mainly responsible for applying, extending and developing the framework of coping and defense mechanisms is Norma Haan. Now she is offering us a full-dress detailed presentation, of theory *cum* application, in the volume titled "Coping and defending." The subtitle is even further enlightening: "Processes of self-environment organization". It sets the tone of an essentially psychosocial enterprise rather than a traditional intrapsychic exploration.

The book consists of 13 chapters. Eleven of these were written by the author, while the last two were contributed by her associates. Chapter 12 (by Morrissey) reviews the empirical research with the Haan model of ego functioning, while Chapter 13 (by Joffe & Naditch) presents paper and pencil measures of the ego processes previously subjected to ratings, *primarily* based on interview material.

In the first three brief theoretical chapters (a mere 32 pages) the author sets forth her purpose, the rather ambitious undertaking of building a "personal-social psychology." For her, personality is to be understood primarily in terms of processes — "Processes and their organizations are the singular core of personality." Drive is not accorded a central position in this view; the focal concern of this approach is with "sequences of personal actions and transactions with the environment."

Chapter 4 outlines the schema, taxonomy, or "ego map" of the ego processes. Here we see an extension of the earlier model of coping and defending with the addition of the category of "fragmentation." Essentially ten "generic processes" are listed and parallel coping, defense and fragmentation mechanisms are also delineated. Although the fragmentation category is added in the schema as a most pathological and maladaptive mode the remainder of the book seems to be concerned with coping and defenses primarily. However, the procedures for ego rating proposed (Appendix A) allow for a continuum from coping to fragmentation, but the Q-sort methodology (Appendix B) is based on coping and defense only.

Further theorizing regarding personality in Chapters 5 and 6 brings about a reemphasis of "processes" as the major aspect of the personality study model and points to two modes of application of this principle. In the first place, there is the procedure of "normative ratings," referred to above as detailed in Appendix A. Second, a 60-item Q-sort (3 items for each ego process — coping and defending).

The bulk of the book, that is, the next five lengthy chapters, is concerned with the application of the ego processing approach in relation to "cognition and moral structures," developmental processes, the investigation of stress and the family, and child-rearing. The empirical, illustrative data are drawn mainly from the Oakland Growth Study and other longitudinal materials obtained from the Institute of Human Development at Berkeley with which the author has been associated for a number of years. These chapters are not just reports of data, but are heavily laced with complicated theorizing and attempts at bolstering the ego processing model of personality to which the author is committed. In her final brief chapter on "Implications, limitations and perspectives" Haan presents a succinct and pithy summary of her theoretical stance. She points out, essentially, that there is much more to personality than the contentless ego processing that character-

ized a person — "One hallmark of an individual life is its distinctive content." She implies however, that the latter is not amenable to study via empirical science.

This is not a very easy book to read. It is rather complex in its attempt to meld psychoanalytic ego psychology with cognitive psychology. One may not agree with the author's somewhat confining conceptualization of personality. However, there is much in this book, especially the methodology of ego processing, that can be applied in the context of other theoretical views. The theoretical discussion, although rather dense in spots, is insightful and enlightening. This book is to be recommended to all those who feel with Nagel, who is quoted by Haan, that "We are all mariners who must reconstruct our boats, plank by plank, while we remain at sea (p. 98)."

#### References

- Haan, N. Proposed model of ego functioning: Coping and defense mechanisms in relation to IQ change. *Psychological Monographs*, 1963, 77, (8, Whole No., 571).
- Kroeber, T. C. The coping functions of the ego mechanisms. In R. W. White (Ed.), *The Study of lives*. New York: Atherton Press, 1963.

**Monroe M. Lepkowitz, Leonard D. Eron, Leopold O. Walder, and L. Rowell Huesmann.** *Growing Up to be Violent, A Longitudinal Study of the Development of Aggression*. New York: Pergamon, 1977. 236 pages, \$8.00 flexicover, \$14.00 hardcover.

*Reviewed by Robert Wm. Davis*

*Robert Wm. Davis, a diplomate of ABPP in Clinical Psychology, is in private practice. As Chief Psychologist Consultant for Oregon's Mental Health Program in Corrections, his clinical specialty is the violent offender.*

*He has recently completed a review of the literature on dangerousness and a study of mental disturbances of imprisoned offenders. He has authored articles and chapters on a variety of subjects including psychotherapy, geropsychology and psychological services in corrections.*

Prediction of violence has a fairly short and not particularly promising scientific history. Spurred on by concern over the influence of television on children's behavior and development, the usual arguments over causation and correlation have produced a number of empirical tests of which the present

work is one. It improves on many of the others by using the longitudinal approach and more sophisticated measurements. Gains in precision however are accompanied by a loss in discriminative power in defining aggression and violence. Construct and face validity give way in this study to reliability considerations.

The book is interesting and valuable if only for the concise and exceptionally well written discussion of the nature of aggression, its roots, and summaries of the theories explaining violence and of empirical findings of its correlates. The study however does not seem to follow from these promising beginnings. It can be seriously questioned whether the study is about violence and aggression at all, but may instead assay various individual differences more closely allied to social competency, assertiveness and marginally tolerable "conduct problems." As a longitudinal study in progress it is logical to expect that the results on followup may eventually bear out some part of the authors' theses. At present however these results do little to establish that peer-rated aggression in third graders, even though predictive of similar ratings ten years later, has any direct relationship in turn to grown-up violence. The study, of which this book is largely a report, in fact indicates that 5 of a "high aggression" group ( $n = 54$ ) were subsequently arrested for a felony of unspecified nature or seriousness, while just 2 of 55 "low aggression" subjects were so arrested. It seems to this reviewer that these are slight grounds to conclude that a group where some of the members smoke is a convention of arsonists.

The study, of a large number of social learning theory derived correlates of aggression taken both singly and "synchronously," used the entire third grade class of a semi-rural New York county for the year 1959-60, then reexamined them in 1970 when they were in "grade 13," i.e. mean age of 19. The sample was ethnically and socioeconomically well mixed. The attrition rate over ten years was nearly 50% (427 subjects of 875) although this was not fatal to the conclusions since many of the predictor variables took into account only the first measures at approximately age 8.5. The main measures were peer-ratings (both 1960 and 1970), the MMPI (1970 only), parent-rated aggression (1970 only), and a self-report questionnaire (1970). Demographic correlates were likewise extracted.

Defining aggression nonoperationally as "an act which injures or irritates another person," the researchers proceeded to establish that a number of the variables identified were associated with the 10-year interval correlations of peer-rated aggression ( $r = .38$  boys;  $.47$  for girls). Among them were: parental re-

jection, poor cross-sex identification with parent, harsh early punishment for aggression, low school achievement (and IQ) and (an absence of) confessing, guilt-admitting behaviors on the children's part. The rather subjective, sociometric method used to measure aggression falls into the trap which has become the major bugaboo of studies of dangerousness and violence — failure to establish a commonly accepted or clear-cut definition of the dependent variable. For example, one must wonder about such findings as a predictive relationship between high (father) socioeconomic status and "aggression" as rated by peers. It is never very clear in this study that the "aggression" measured is at an intolerable level or even altogether negative. There is not much then to justify the use of a concept such as "Violence" as contained in the title, which seems to be no more than a publisher's gambit to take advantage of a hot topic, and as such does the study and its consumers a disservice.

Methodological problems in longitudinal studies are well known. This work's deficiencies should not be permitted to obscure the positive findings relating (nonaggressive) popularity with nurturance, for example. An interesting and contemporaneously important result is the conclusion that a "diet of violent TV" (p. 86) is associated with being rated as aggressive both at age 9 and 19, particularly since this appraisal includes not only TV shows or series but viewer preference for body contact sports.

Scholars and practitioners will find this book a good review of the issues and an interesting if flawed and patently unfinished example of developmental research and its problems. It seems likely that the main problem of the study—failure to establish linkages for the measures used with a critical distinction between irritations and those acts which do real injury, is magnified by the exclusion of such factors as neurological antecedents (recognized by the authors) and personality variables. Their choice of a social-learning theory model seems to have done much to confine the results to the realm of normal aggression. While clearly a valuable area to research on its own, particularly in the light of an increasingly recognized tolerance for aggression in society, the problem of definition is a crucial one perpetuated throughout this work where sweeping inferences are made about aggression and violence. One implication of the relative stability of peer-rated aggression, the authors state, is that such behavior is a trait-phenotypical only — but this again does not preclude the assumption that more individually dramatic or significant aggression is pro-



duced by genotypic characteristics, given sufficient instigating circumstances, or none. We simply do not know.

The final chapter, "Implications..." is of particular interest to the advanced student as a contribution to criminology, personality theory and social psychology, even though discussions of such topics as control of aggression, psychosurgery, and prevention, while salutary, have only the broadest general connection with the study. This is an example of those books in which a limited focus research has been used as a springboard for a much more encompassing and inclusive discussion of related topics and issues. In this case the result is a poor fit of measurement to a complex macro-behavior in which there is as yet, little yield to show for all the telling.

**Delbert C. Miller.** *Handbook of Research Design and Social Measurement*. 3rd Ed. New York: Longman, 1977, 518 pages, \$14.95.

*Reviewed by Claude M. Ury*

The reviewer is associated with the San Francisco Unified School District, San Francisco, California. He has been involved in designing and analysis of instruments concerned with school programs with a special interest in multi-cultural education.

This handbook is organized around five major areas of research namely, research design and sampling; collection of data; statistical analysis; selection of sociometric scales; research funding, costing, and reporting.

In part I the authors have collected from the research literature significant articles dealing with research design and sampling of interest to this reviewer was a comprehensive analysis of various types of sampling designs such as simple random, cluster, and judgment in terms of a brief description, advantages and disadvantages.

In the section on data collection the authors have given the readership clear annotated listings to the most relevant statistical material to be found in a library. An explanation of the leading attitude scales is provided, but in the opinion of this reviewer the authors might have explained more clearly the basic mathematics of constructing these scales for inexperienced researchers.

The readings in the section on statistical analysis are in most instances too advanced for the beginning researcher and the authors have not provided in the opinion of this reviewer a clear enough explanation of the readings that follow.

The authors have selected a group of social indicators for analysis, but many of these indicators are long dated and would not be available to the average reader in the form of PhD dissertations or specialized research monographs.

This volume contains material of interest to the more advanced researcher, but an undertaking of this magnitude, in the opinion of this reviewer, will become dated rapidly due to the rapid growth in research, research journals, and congressional concern for research in the social and behavioral sciences.

**Thomas Oakland, (Ed.).** *Psychological and Educational Assessment of Minority Children*. New York: Brunner/Mazel, 1977, 241 pages, \$13.50.

*Reviewed by Katharine Beardsley*

Dr. Beardsley is currently special assistant to the Director, Division of Manpower and Training programs, NIMH, and special assistant to the Deputy Administrator, Alcohol, Drug Abuse, and Mental Health Administration.

Her interests include training of mental health personnel, manpower development, and evaluation of manpower programs.

The basic hypothesis of this volume is that assessment practices should be undertaken with the intention of improving children's development and of helping appropriate persons make wise and informed decisions about this development process. Both formal and informal assessment techniques can be reliable and valid when appropriately used.

The book identifies various professional, legal, ethical, and social issues which should be considered in order to use assessment techniques appropriately with minority group children. It calls equally naive the notion that decisions regarding children can be improved by negating assessment practices and the notion that practices once initiated lead per se to the improvement of children's abilities and skills.

The task before "us" (by which the editor means both writers and readers) is two-fold: The writers identify appropriate practices and issues which must be considered in designing and providing effective diagnostic-intervention services with minority group children. The reader and colleagues and members of the community are to make informed decisions as to what tools and practices best contribute to developing diagnostic-intervention programs which are effective in advancing



children's development and minimize biases due to racial or ethnic characteristics.

There are certain considerations important in designing and implementing an individually tailored assessment program for minority group children. The book presents this in two parts. The first part is substantive content organized to describe and examine current, extant issues and practices in four dimensions: historical precedence; current standards set forth by professional associations, legislation, and traditional action; available technology; and ways to conceptualize a service delivery model.

The second part sets forth sources of information which may be used by persons designing assessment-intervention programs for minority group children, such as ethical standards for psychologists and an annotated bibliography of language dominance measures.

This approach of operationalizing the diagnostic-intervention process is a positive one. A state of the art of unbiased assessment does exist in the form of broad professional resources, sound principles and practices, legislative and legal guidelines, and intervention techniques which, if applied properly, alter and improve children's behaviors. It is the utilization of these resources that constitutes the art. The idea that someday there will be a magical test that is unbiased or culture-fair is not a valid one. The solution of the problem lies in being proactive in finding solutions now by properly utilizing resources currently available.

A complete diagnostic-intervention process consists of historical-etiological information, currently assessable characteristics, specific treatments and interventions, and a particular prognosis. In order to attain a comprehensive process it is necessary to use combinations of a number of assessment techniques or models, each combination being unique to the situation at hand.

Within this frame of reference, the operational focus of the approach is reflected in six contributors:

- Dr. Ernest Bernal, Associate Professor, Bicultural Bilingual Studies, The University of Texas at San Antonio
- Dr. Luis M. Laosa, Research Psychologist, Educational Testing Service, Princeton
- Dr. Jane Mercer, Professor and Chair, Department of Sociology, University of California at Riverside
- Dr. James Tucker, Director, Texas Regional Resource Center, Austin
- Dr. James Ysseldyke, Associate Professor, Department of Psychoeducational Studies, University of Minnesota
- Dr. Paula Matuszek, Office of Research and Evaluation, Austin, Texas, Independent School District.

Dr. Thomas Oakland, the editor, is in the Department of Educational Psychology of the University of Texas at Austin.

In essence this is a handbook which needs testing out in order that its usefulness may be evaluated. The background material it provides and the extensive bibliographic resource within the frame of reference of the diagnostic-intervention rubric go far towards providing a base for critical testing in the field. And, of course, what is far more critical, is whether or not this particular approach, appropriately handled, really can make a difference in the education and self-realization of minority group children.

**Robert Shaw and John Bransford (Eds.). *Perceiving, Acting, and Knowing: Toward an Ecological Psychology*. Hillsdale, N. J.: Lawrence Erlbaum Associates, 1977, 492 pages, \$19.95.**

#### **Psychologists as Philosophers — Experimental Epistemology and Thought**

*Reviewed by Frank H. Farley*

*The reviewer is a professor at the University of Wisconsin-Madison, where he has been since receiving a PhD in psychology at the University of London, England, in 1966. He is President-elect of the Division of Educational Psychology of the American Psychological Association, and is a Fellow of APA, the British Psychological Society, and the Society for Personality Assessment. His research interests focus on individual differences, learning, and psychobiology.*

It is almost 10 years since a slim volume appeared in psychology that initiated the current cognitive revolution. The year was 1967 and the slim volume was *Cognitive Psychology* by Ulric Neisser. The cognitive revolution has raged across the psychological terrain unabated for this decade, extending into most areas of human learning, thinking, problem-solving, perception, memory, personality, motivation, and emotion. Research from an information-processing perspective has become a way of life for many experimental psychologists. Cognitive development dominates much of research in child development. In clinical psychology and personality, cognitive theorists such as Albert Ellis, George Kelley, etc. are enjoying a remarkable currency.

Where experimental research into learning, thinking, and memory is concerned, much of the work over the past decade has become increasingly narrow, employing narrowly conceived information-processing models with

simplistic test paradigms, relying to a great extent on that hoary technique of early psychology — reaction time. Fresh thinking and new perspectives are sorely needed if the significance of the cognitive revolution is to be maintained. Thus it is appropriate and timely that the book under review has appeared 10 years after Neisser's epochal work, because this book clearly departs from much of the information-processing approaches to learning, memory, and thought. Indeed, Shaw and Bransford's book may represent a mini-revolution in its own right. I'm not certain theirs is an important revolution, or the best way to go, but this volume is clearly different from most of its predecessors.

The book is based primarily on a conference held at the Center for Research in Human Learning at the University of Minnesota in 1973. Almost all of the contributors have in one way or another been associated with that University. The book may be characterized as differing from much of the prior work in this area by its philosophical emphases and influences, and the center stage role given the ecology and context of perception, action, and knowledge. It is strongly infused with philosophical thinking from areas of epistemology, logic, aesthetics, and so on, with epistemology leading the way. Indeed, an apt description of the content of this volume would be "experimental epistemology." The volume is divided into two major sections, with the first entitled "Perception, Action, and Development" and consisting of three sub-sections on "Perceiving our World," "Developing Knowledge," and "Acting and Perceiving." The second section entitled "Language and Knowing" consists of two sub-sections on "Knowing through Language" and "Accessing Knowledge."

The 16 chapters range across a considerable topical variety, and their significance is equally varied. The authors and chapters: Robert Shaw and John Bransford "Psychological Approaches to the Problem of Knowledge"; William M. Mace "James J. Gibson's Strategy for Perceiving: Ask Not What's Inside Your Head, but What Your Head's Inside of"; James J. Gibson "The Theory of Affordances"; Karl H. Pribram "Some Comments on the Nature of the Perceived Universe"; Robert Shaw and John Pittenger "Perceiving the Face of Change in Changing Faces: Implications for a Theory of Object Perception"; Marcus Hester "Visual Attention and Sensibility"; Peter B. Pufall "The Development of Thought: On Perceiving and Knowing"; Michael Cunningham "The Mechanics of Growth and Adaptive Change"; M. T. Turvey "Preliminaries to a Theory of Action with Reference to Vision"; Walter B. Weimer "A Conceptual Framework

for Cognitive Psychology: Motor Theories of the Mind"; Donald Shankweiler, Winifred Strange, and Robert Verbrugge "Speech and the Problem of Perceptual Constancy"; Michael P. Maratsos "Disorganization in Thought and Word"; Robert R. Verbrugge "Resemblances in Language and Perception"; Elizabeth F. Loftus "How to Catch a Zebra in Semantic Memory"; James J. Jenkins "Remember That Old Theory of Memory? Well, Forget It!"; John D. Bransford, Nancy S. McCarrell, Jeffrey J. Franks, and Kathleen E. Nitsch "Toward Unexplaining Memory."

There are two or three particularly important chapters here. J. J. Gibson presents a clear exposition of his important theory of affordances. Karl Pribram updates his theories of Plans and Images in perception, memory and thought at both the neurological and behavioral levels and considers a number of issues derived from these theories. As usual, his presentation is complex, far-reaching, highly original, and opens up more questions than answers. Walter Weimer underscores the neglect of motor theories of mind in current cognitive psychology, making important points concerning some common errors of cognitive psychology, the revolutionary, and behaviorism, the establishment. Many other chapters are thought-provoking and original and important contributions. This reviewer found the final chapter by Bransford, McCarrell, Franks, and Nitsch on "Toward Unexplaining Memory" to be one of the most provocative and useful pieces of writing in this or any other recent volume in cognitive psychology. This chapter attempts in a preliminary fashion to question and reevaluate the fruitfulness of the assumption that a concept of *memory* underlies such issues as the influence of past experience on subsequent behavior, and the notion of remembering. (One criticism of this otherwise exceptional chapter is the neglect of the earlier work by W. W. Rozeboom on the viability of the concept of memory.)

This volume should be read by all cognitive psychologists and those persons interested in knowing where cognitive psychology is going. Its readership should also include epistemological philosophers, linguists, educational researchers, and educators. The concept of *comprehension* brings these persons together and is a central concept in much of this volume. For instance, there are implications for understanding and teaching reading.

There are, however, important neglected topics in this book. Individual differences is a major one, with little attention being given to such matters as personality, aging, measured intelligence, and so on. There is often the use of cute demonstration as evidence, rather



than thorough experimentation. This, of course, reflects the philosophical and linguistic heritage of much of this work.

The importance of this volume to the personologist and the field of personality assessment lies primarily in providing a current perspective on cognitive psychology. Almost no area of present-day psychology is untouched by the cognitive revolution, personality being no exception. There are profound implications in this revolution for cognitive definitions of personality, for the relationship of personality to perception, thinking, memory, and action, for the linguistic assessment of unique mental functioning, and for the assessment and understanding of mental disorganization and personality and emotional entropy. Personologists cannot ignore it.

**Alan J. Ward** with contributions by **H. Allen Handford** and **Virginia M. Leith**. *Childhood Autism and Structural Therapy*. Chicago: Nelson-Hall, 1976, 222 pages, no price given.

*Reviewed by Douglas O. Brady*

*Douglas O. Brady received his PhD from the University of Oklahoma in counseling psychology. He has been a Director of a child guidance center in Oklahoma, and Assistant Coordinator of Psychological Services at a state hospital in Texas. His current position is Chief Clinical Psychologist at the Child Study Center in Fort Worth, Texas. His research interests include sign-based training and psychoeducational treatment of autistic children, and the etiology of autism and other severe childhood disorders.*

This book is a collection of 16 papers previously published over an eight-year period. The author has grouped the papers into five topic areas for his book: (1) The Problem of Autism; (2) Diagnosis; (3) Etiology; (4) Treatment; and, (5) Results of Treatment. The papers were selected by the author to represent the transition of his theoretical position regarding autism developed during ten years of treatment and research of Early Infantile Autism at the Autistic Children's Treatment, Training, and Research Services Unit at Eastern State School and Hospital in Trenose, Pennsylvania. It is also the author's contention that this book of papers was written for the families of autistic children, researchers, therapists, and other interested professionals. It is difficult to comprehend how a single book could appeal to such a diverse audience; however, this collection of papers has information that could be of interest to both parents and

professionals.

The papers on diagnosis and the presentation of the "problem" of autism are of merit and provide a basis for understanding the difficulty involved in claiming that Early Infantile Autism is a diagnostic term for a specific clinical entity. Current research and speculation appear settled on this point only if one accepts a particular theoretical position; conflicting claims, and unsettled opinions are part and parcel of the treatment and research into autism. This section appears to provide no comforting conclusion and the section on Etiology becomes even more discomforting.

The papers on Etiology present at least two different positions which are incompatible. One position views the symptoms of autistic children as resulting from a common lack of sensory stimulation during infancy. The other position is that there is no current evidence to support a common etiology for autistic children, because the behaviors that result in the diagnosis of autism may have multiple causation. Current etiological theory supports neither view and seems to be moving in the direction of accepting a hypothesized neurological deficit that involves a dysfunctioning vestibular system common to all autistic children (Ornitz, 1974).

In examining the different conclusions reached by the author's papers in the three previous sections, one is confronted with an earlier suggestion from the preface that there was a transition of thought regarding the diagnosis, definition, and etiology of autism. However, there is no clear position forthcoming at the end of each section. We are asked by the author to wait until the end of the book.

Any cohesiveness connecting this collection of papers is provided by the continued description of structural therapy. Structural therapy is the active intrusion by the therapist into the autistic child's stereotypic behavioral pattern (termed the behavioral ego by the author). This purportedly results in a significant reduction in symptoms of autistic behavior. The claimed results of structural therapy must be viewed with skepticism. No therapeutic modality at present has been totally effective in remediating the vast cognitive, behavioral, social, and perceptual deficits found in autistic children (Ritvo, 1976). The author reports a side benefit of structural therapy; autistic children spontaneously engaged in vocalizations after treatment. A similar effect of treatment has been reported by other researchers examining the sign-based language training of autistic children (Fulwiler & Fouts, 1976). It is worth further examination to determine if there is a common stimulus event preceding this reported increase in spontaneous vocalization.

If we glance at the author's final position and view Early Infantile Autism as a developmental disorder based on a stimulation deficit in the child's developmental history we find a claim that awaits substantiation.

The papers, conclusions, and positions while dated provide us with historical perspective, and mirror both the author's and other clinician's and researcher's transition of thought regarding autism. A benefit in reading this selection of papers is that they provide a point of reference for viewing the continuing controversy regarding the diagnosis, etiology, and treatment of children labelled as autistic. If this provides contact with the field and stimulates research so much the better. Autism awaits the final conclusion regarding etiology and treatment.

#### References

- Fulwiler, R.L., & Fouts, R.S. Acquisition of American sign language by a noncommunicating autistic child. *Journal of Autism and Childhood Schizophrenia*, 1976, 6, 43-52.
- Ornitz, E. M. The modulation of sensory input and motor output in autistic children. *Journal of Autism and Childhood Schizophrenia*, 1974, 4, 197-215.
- Ritvo, E. R. *Autism: Diagnosis, current research and management*. New York: Spectrum, 1976.

**Bert Westerlundh.** *Aggression, Anxiety and Defense*. University of Lund, Sweden: SWK Gleerup, 1976, 192 pages.

Reviewed by Robert T. Kurlychek

Dr. Kurlychek received his MS and PhD from the University of Oregon in Eugene, Oregon. He worked for four years with the Alcohol and Drug Section of the State of Oregon Mental Health Division. For the past year he has been the Director of Psychological Services for Lane County Adult Corrections. These services involve correctional counseling and assessment.

His interests in the area addressed in the reviewed book include the assessment of aggressive behavior and the investigation of the effectiveness of anger-management approaches in the treatment of the violent offender.

This work by Westerlundh describes a num-

ber of laboratory studies using the percept-genetic assessment technique to test certain hypotheses derived from psychoanalytic theories of defensive processes.

In the percept-genetic theory of perception-personality certain stereotyped and inadequate perceptions are believed to be indicators of psychic conflict and defensive operations. The Defense Mechanism Test (DMT) is an assessment technique based on this theory. The administration procedure for this technique involves the subject viewing successively prolonged tachistoscopic exposures of pictures with anxiety-provoking content. There has been created a formalized scoring system for the DMT which is based on the psychoanalytic theory of defensive processes.

Besides attempting to investigate psychoanalytic propositions experimentally in the laboratory and examining the usefulness of the percept-genetic assessment technique for such studies, the author intended to increase the available validity data for the DMT method.

In each of the three experiments described, the subjects are faced with a basic aggressive interaction: punishment directed at themselves, inflicting punishment upon others, or viewing a film depicting an aggressive action. At various points during the evolution of each experiment the measures are taken.

From the results of these experiments Westerlundh concludes that support is provided for the psychoanalytic theory of defensive processes and that percept-genetic scoring categories (and especially the DMT scoring scheme) are very adequate methods for operationalizing psychoanalytic concepts.

This endeavor to operationalize and adequately assess a psychoanalytic construct joins a growing list of studies investigating the validity of various psychoanalytic concepts. It is encouraging to see this recent increase in attempts to experimentally test hypotheses derived from a theoretical system which has been criticized in the past for its lack of empirical-mindedness and self-evaluation. Although the methodological designs of Westerlundh's experiments (by strict definition, actually *quasi-experiments*) are open to criticism, the precise details presented by the author in describing the assessment methods and the experimental procedures employed make this book a valuable reference for the psychoanalytically oriented researcher.



## New Books Available For Review

**Write to Book Review Editor: Dr. Max R. Reed, 6201 S.W. Capitol Highway, Portland, Oregon 97201.**

John W. Atkinson and Joel O. Raynor. *Personality, Motivation, and Achievement*. New York: John Wiley, 1978. 242 pages, \$10.95.

Andrew Baum and Epstein M. Yakov. *Human Response to Crowding*. Hillsdale, Lawrence Erlbaum, 1978. 418 pages, \$19.95.

Sheldon Blackman and Kenneth M. Goldstein. *Cognitive Style: Five Approaches and Relevant Research*. New York: John Wiley, 1978. 279 pages, \$16.95.

Kazimierz Dabrowski and Michael M. Piechowski. *Theory of Levels of Emotional Development: Vol. I—Multilevelness and Positive Disintegration*. New York: Dabor Science Publications, 1977. 241 pages, \$15.

Kazimierz Dabrowski and Michael M. Piechowski. *Theory of Levels of Emotional Development: Vol. II—From Primary Integration to Self-Actualization*. New York: Dabor Science Publications, 1977. 259 pages, \$15.00.

Ruth Eissler, Anna Freud, Marianne Kris, Peter Neubauer, and Albert Solnit. *The Psychoanalytic Study of the Child: Vol. 32*. New Haven, Conn.: Yale University Press, 1977. 223 pages, \$22.50.

Donald Forgays. *Primary Prevention of Psychopathology: Vol. II—Environmental Influences*. Hanover, New Hampshire, University of New England, 1978. 265 pages, \$15.00.

Erna Furman. *A Child's Parent Dies*. New Haven, Conn.: Yale University Press, 1974. 316 pages, \$17.50.

Bert Arthur Goldman, John Christian Goldman. *Directory of Unpublished Experimental Measures: Vol. II*. New York: Human Sciences Press, 1978. 518 pages, price unknown.

Virginia E. Johnson, Robert Kolodny, and William Masters. *Ethical Issues in Sex Therapy and Research*. Boston: Little, Brown and Co., 1977. 219 pages, price unknown.

Francis J. Keefe, Steven A. Kopel, and Steven B. Gordon. *A Practical Guide to Behavioral Assessment*. New York: Springer, 1978. 212 pages, \$13.95.

Harold H. Kelley and John W. Thibaut. *Interpersonal Relations: A Theory of Interdependence*. New York: John Wiley, 1978. 341 pages, \$18.95.

Louis Barclay Murphy and Alice E. Moriarty. *Vulnerability, Coping, and Growth: From Infancy to Adolescence*. New Haven, Conn.: Yale University Press, 1976. 460 pages, \$20.00.

Bernard I. Murstein. *Exploring Intimate Life Styles*. New York: Springer, 1978. 302 pages, \$18.95 (cloth), \$11.95 (paperback).

N. R. W. Pande. *A Study of Intelligence Test Scores of Candidates at the Services Selection Boards*. New Delhi: Controller of Publications, 1977. 196 pages, \$1.52.

Bennett Simon. *Mind and Madness in Ancient Greece*. Ithaca, New York: Cornell University Press, 1978. 289 pages, \$17.50.

Charles D. Spielberger and Irwin G. Sarason. *Stress and Anxiety: Vol. V*. Washington: Hemisphere, 1978. 421 pages, \$18.95.

Russell G. Stauffer, Jules C. Abrams, and John J. Pikulski. *Diagnosis, Correction, and Prevention of Reading Disabilities*. New York: Harper and Row, 1978. 374 pages, \$10.95.

Siegfried Streufert and Susan C. Streufert. *Behavior in the Complex Environment*. New York: John Wiley, 1978. 316 pages, \$18.75.

## Erratum

The June issue of the *Journal* contains errors in the Brannigan et al article, "Bender Gestalt Signs as Indicators of Conceptual Impulsivity".

1. In line 1, page 235, the first word should be *located*.

2. In line 33, page 235, the reference should be to *Hutt, 1969*.

3. Pages 234 and 235 should be reversed.

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# Journal of Personality Assessment

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**August 29, 1978**



**Roy Schafer**

The Bruno Klopfer Distinguished Contribution Award was presented to Dr. Roy Schafer today by the Society for Personality Assessment. Airline delays prevented Dr. Schafer from making an appearance at the meetings. His address for the occasion is reproduced here, followed by a list of his 84 publications.

## Psychological Test Responses Manifesting the Struggle Against Decompensation

ROY SCHAFER

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Perhaps the subtlest and most demanding task faced by clinicians is that of developing and maintaining an affirmative, appreciative view of the manifestly grossly disturbed activity presented to them by patients. This is as true for psychodiagnostic precision as it is for therapeutic effectiveness. It is a task that cannot be accomplished easily.

Why is it a difficult task? I suggest the following as one major part of the answer to this question. In learning to become clinicians we necessarily and correctly concentrate on picking up or eliciting and giving due weight to the patient's irrationality, alienation, maladaptiveness, and destructiveness that do not easily meet the eye. We do not want to take things at face value, especially when the patient presents them in some well rationalized form as inevitable, justified under the circumstances, natural, and occasions for good-hearted sympathy. We must become hypersensitive to cues indicating that among the problems presented by the patient are severe or malignant paranoid, depressive, schizoid, masochistic, antisocial, or other such central features. We spend an enormous amount of effort learning to see what we might easily and sometimes disastrously miss.

It is a great kindness to patients to be hypervigilant and exacting in this way. All too often, insufficiently exacting test administration and incomplete interpretation are matters of the tester's bending too much in response to the patient's — and perhaps to the tester's immediate discomfort and needfulness, and consequently not adhering as firmly as possible under the circumstances to the rules of standardized test administration, scoring, and interpretation. Then, one does not do careful and sustained inquiry into responses; one gives higher scores on the WAIS verbal items than are warranted; one scores color

or movement in the Rorschach test when neither has ever been mentioned by the patient; one hesitates to score a pure color response or a confabulation for what it is; and the like. Those testers who can be tough-minded in these respects are the ones who are being self-disciplined, professionally responsible, and kind.

The danger is, however, that one may overshoot the mark in this respect. I mean more than that one may fail to emphasize adequately the patient's coexisting strengths — his or her manifest intelligence, perseverance under stress, evident desire for better relationships, etc. With proper training and experience, this part of the job is not too hard to do. What is hard to develop is an affirmative, appreciative view of pathological phenomena that I mentioned in my opening statement and that I shall soon explain and illustrate. It is only on the basis of taking *this* view as well as the pathology-sensitive view that the psychodiagnostician as well as the therapist can develop a deeply empathic, appropriately supportive, balanced view of the patient as a whole human being. One finds this affirmative view richly represented in the writings of D. W. Winnicott.

But before going on with this theme, I want to set the historical stage on which we are now performing our clinical tasks. It is necessary to do so because this setting tends to exaggerate the undesirable tendencies toward one-sided preoccupation with pathology and to offer a splendid opportunity for clinicians to maximize their contribution to assessment and treatment. Although I shall highlight the situation that prevails in inpatient care, I shall be referring to factors that significantly influence outpatient care as well, even though less dramatically.

The pattern of psychiatric hospital care has been changing drastically, on the one

hand in response to political, social, and economic pressures and on the other hand as part of a necessary confrontation and professional reassessment of what hospitalization can reasonably hope to accomplish in many or most instances. Severely troubled patients are being quickly discharged from hospitals, often back into their disturbing community or asocial existence, as the case may be; perhaps they are referred to a day hospital, an after-care group, an outpatient clinic or a private practitioner to be maintained (as it is said) by some combination of supervision, support, drugs, and quasi-social structures such as half-way houses. Here, the typical therapeutic approach is not so much to work anything through as to help the patient seal over the acute disturbance, to make the best adjustment possible under the circumstances, and to make way for the next patient.

One result of this approach is that decisions are often made with insufficient information about the patient's psychological status. Despite the most conscientious professional intentions, there creep in more or less impatience with, and disparagement of, those patients who do not proceed according to a schedule that is determined largely by considerations not specific to their psychological conditions. Day-hospital patients, for example, may be thought prematurely to be ready for expanded social life or for work, and they may be treated almost as malingerers if they do not shape up and ship out. To the staff which has followed their progress, they *seem* so much better and so far past their acute disturbance. That the professionals themselves are more or less subtly demoralized, frustrated, and irritated as human beings and mental health workers by the imposed role limitations is evident in these departures from the conscientiousness and benevolent neutrality of which they are otherwise capable. At least these are some of the dangers that exist under present historical circumstances; these are circumstances in which politicized governmental policy and the economic problems and opportunism of insurance companies increasingly determine the shape of clinical practice. Reactionary medical bias in mental health

care and the substitution of cost accounting for psychologically informed humanism are part of the price of these historical changes.

In this context, psychological testing can play an important part in protecting patients' interests. It can do this by showing or making clearer just where a patient is in the process of recovery from a severe disruption of functioning such as an acute psychotic break. It is particularly in this situation that one must combine an unflinching recognition of continuing profound disturbance with a sensitive appraisal of the patient's own efforts to control that disturbance or to prevent its manifest recurrence even if by measures that do not fit neatly into a schedule of social, occupational, or familial rehabilitation. Policy may be so powerful that no amount of insight and effective communication can stand in its way; nevertheless, one must do one's best, and it is by no means out of the question that, by presenting a fine appraisal of strength in apparent weakness or restriction and weakness in apparent strength, one may make a significant contribution to the protection of patients against premature confrontations and demands.

The affirmative, appreciative view I mentioned rests primarily on one's own sense of patienthood and one's readiness to recognize and partially identify with the patienthood of the person being assessed. By patienthood I refer to our continuing struggle to communicate and to master, by whatever means and with whatever success, the painful and conflictual issues which have more or less characterized our lives. For many of us the recognition of this struggle and the degree of mastery we enjoy with respect to it have been established, heightened, clarified, and understood with the help of personal therapy. One *should* emerge from one's own therapy with a sense of how much one has lived one's life in terror and how much one has suffered and wasted on this account; but one should also recognize how much, even through one's most disruptive activities, one had been doing the best one could with the people, resources, and opportunities available. Thus, an obsessional symptom, an hysterical character trait, or a schizoid



cautiousness and hypersensitivity in personal relationships are in this respect to be viewed not simply as wounds, failures, or deficits; in each case the symptom or character trait must also be viewed as the best compromise that could be effected under the circumstances as one experienced them.

The viewpoint on ourselves that I just described should prevail in our approach to patients. When, as we say, patients resist or act-out, when they are rigid or passive-aggressive, when they mistrust and attack our most genuine efforts to empathize, they are also affirming something important to them — that, for instance, they are not ready to take the first step or the next step in changing, expecting that that step will ruin whatever sense of personal cohesion, effectiveness or relatedness they are able to maintain. Moreover, these negative-seeming activities on their part have meanings that it is essential to try to define — such meanings, for instance, as that they are not barren; that they will not let themselves be robbed of their psychic contents; that they are, despite all, masculine or feminine; that something is there that is worth preserving from overstimulation, invasion or whatever, perhaps some hopefulness or goodness, some worthwhileness or dignity, some honest and accurate though terrifying reality testing concerning those around them who matter to them. Like love, good reality testing in a disruptive family setting, when it can be consciously affirmed and acted on, is an almost miraculous achievement, and self-assaults on one's own sense of reality through repressive, incorporative and self-condemnatory maneuvers are major elements in the disturbances with which we deal clinically. Among other things, these assaults are self-sacrificial acts of devotion and reparation, as well as desperate and obscure ways of keeping open better possibilities for oneself in the future.

I hope that just this much about the affirmative, appreciative point of view gives you an idea of what I mean. I will add only that one of the major obstructions to this point of view is the abundance of clinical terms that get to be implicitly pejorative owing to the negative emphasis they put on clinical observation. I refer to such

terms as resistance and defense, acting-out, passive-aggression, rigidity, and narcissism. These terms, which may of course be used neutrally or even in the balanced way I am recommending, are too often used to orient the clinician to what the patient is *not* doing or *not doing right* so far as the clinician's routine therapeutic aspirations are concerned. That is to say, the terms support a focus simply on pathology, obstruction, or technical difficulty. This focus, as I said, is essential to good clinical work, but it comes into its own only when it is balanced by a proper appreciation of what, from the standpoint of the patient's mostly unconscious psychic reality, is the only way to manage adaptively under circumstances that are dreadful or anticipated to be so should any change be allowed.

The first type of struggle I shall take up is the manic effort against depressive decompensation. One sees this struggle most transparently in hypomanic and moderately manic test records. These less-than-extreme patients generally manifest an acceptance of and adherence to the test instructions; they clearly respond to the test stimuli; and they talk intelligibly, the result being that the tester can track the struggle in question better than in extreme cases. What does one observe? Repeated denial of gloom, doom, destruction, and privation, through manifest emphasis on peace and plenty, rescue and reparation, good cheer, charm, vital sexuality and generativity. But the dreadful depressive themes are constantly introduced and reintroduced, only to be denied. The patient seems but one step ahead of depression. The attempt at euphoria frequently gives way to irritability; the attempt at generous rapport seems to be a one-way street named Egocentricity; the self-confidence turns readily into uncertainty and mistrust.

The formal test scores may reflect some of this struggle: a relatively low performance IQ on the WAIS signifying low anxiety tolerance and some depression; a relatively large number of *Ws* and *CFs* and poorly seen or arbitrary *FCs* in the Rorschach test, signifying respectively grandiosity, self-centered affectivity, and forced and unconvincing efforts at maternal or

seductive rapport; also confabulatory thinking in the Rorschach test together with a marginal  $F + \%$ , indicating more or less impairment of reality testing. But most revealing of all is the flux in the content, which is often paralleled by corresponding flux in test-taking attitude. In the content there tends to be a strong emphasis on oral abundance, fertility, gaiety, warmth, celebration, Olympian position, expanded space, and motion that is up and out; but each type of euphoric content is compromised by the introduction of its opposite, that is, oral aggression, barrenness, gloom, constriction, downwardness, and inwardness of space and movement, etc. This introduction of thematically opposite poles may occur within a sequence of responses (for example, going from "Paris in the Spring" to "a splattered design" on Card X of the Rorschach); it may occur by transformation of one response (for example, the "splattered design" may change from "a mess" to "a triumph of modern art"); or it may appear in contradictory features of one response (for example, "a crying clown" on Card II of the Rorschach or "patches of fertile and barren land" on Card IX). Comparable flux will be observed in the TAT in response to the light and dark in the photographs, in the thematic and perceptual struggle with the stress and strain strongly suggested by many of the pictures, and so on and so forth.

Although it is often not difficult to identify the manic thrust of such responses and also easy to feel the manic patient's aggressiveness, paranoia, and indifference or indiscriminateness, it is a bit more difficult to be and to remain empathic with the struggle against the dreaded depression that seems to lurk behind every corner, and so to test, score, and interpret the material with full recognition of the patienthood of this type of subject. Therapeutically, it may be a question of respecting the usefulness of manic defensive efforts and not rushing in to interpret them away.

Less desperate and obtrusive forms of this struggle may be seen in the records of patients who are recovering from more or less severe depressions without becoming clinically manic. On direct observa-

tion and self-report, these patients often seem to be further along in their recovery than they seem upon careful analysis of their test responses which show a sort of subclinical manic attempt at recovery. The tester may play a useful role in these cases by so presenting the findings as to help the therapist or staff decide against hasty interpretation, premature discharge from the hospital, reduction of medication, or return to family or work. In this respect the test stimuli are closer to the pressures of everyday existence than the hospital ward or the therapist's office.

The second type of struggle to be discussed briefly is that against decompensation into the acute psychotic break that has only recently been, or begun to be, sealed over. Many patients in one of these stages of recovery show in their test responses that they are making strenuous efforts to limit the amount of stimulation and challenge to which they are exposed. Accordingly, they give few responses; they reject one or more of the Rorschach and TAT cards; they complain about the gloomy or threatening nature of the stimuli; and they give minimal responses to inquiry (for example, "That's just what it looks like."). Getting TAT stories from them is, as is often said, "like pulling teeth." Where they do begin to respond more freely, they may show some word-finding difficulty, fluidity of thinking, incipient confabulation or contamination, or mild peculiarity of verbalization; their performance IQs may be relatively low in a way that is attributable rather to low stress tolerance, poor concentration, and a readiness to give up than to depressive retardation and helplessness; the variation of passes and failures in the WAIS — the item scatter — may be great with a marked readiness to say "don't know" on what should be easy items for them to answer or at least to attempt. One such patient gave this response to the "lost in the forest" item of the Comprehension subtest: "How could you? You're lost? Are there any sounds you might hear and go in that direction? Have no idea. I want to say something like follow the nearest river, but that's not feasible. My answer is, don't get lost; don't put yourself in that position in the first place." The same subject saw the popular figures on Card III of

the Rorschach test as "banging against each other with reverberations," indicating thereby his vulnerability to impingement, and, after responding to Card I of the TAT, he looked at the stack of remaining cards and said, "I don't know if I can do all those: it's an awful lot."

On the whole, however, these patients, when they get into difficulty, tend to take a turn toward reality, so to say, rather than toward autistic thinking. They also express their concern with their heads, their sensitivity to impingement and lack of structure, and their preoccupation with simply holding together, giving for example, such Rorschach responses as "clamps," "thumbtacks," and "things sticking into the head." If they confabulate at all, they do so with benign content (for example, "a mother and father escorting their child" on Card I of the Rorschach test), or they stop before getting in too deep (for example, "Two people somehow connected" on Card VII).

These patients tend to give an adequate number of popular responses except that the responses are likely to be flawed by the inclusion of odd variations of content (for example, "monkeys" on Card VIII) or a *F-* component (for example, feelers on the bat on Card I). They also tend to introduce content that suggests hiding for safety (for example "Holes dug in a mountainside by Indians" on Card I), cover-ups of defects (for example, "a toupee" on Card V), minimization of threats (for example, "Microscopically enlarged bacteria in a drop of water" on Card VIII). Additionally, there is often a noteworthy lack of formal and thematic coherence in their responses, such that in the TAT, for example, there is a mixture of weird, gloomy, ominous and magical stories and positive, warm, object-related stories; similarly, in the Rorschach test the level of responsiveness varies from threatening *F-* responses to conventional *FC* + responses and popular responses. This formal and thematic incoherence is unusual in the records of patients who are definitely classifiable as neurotic, borderline, or actively psychotic. It is, moreover, a flux of response that, when studied as a sequence, may be interpreted as a succession of recoveries from regressive reac-

tions as well as a determined, even if erratic, striving to maintain adequate reality testing. Thus, what seems like an unusual and random mixture may be seen as a meaningful pattern, namely, that of the sealing-over patient. The impression one gets of these records may be expressed in the form of the question one is often stimulated to ask oneself: "Why isn't this record crazier than it is?"

Those who are more promising candidates for successful readjustment give Rorschach responses that can *almost* be scored *M*, *FC*, and *FCh*, but cannot be so scored owing to the lack of spontaneous reference to movement, color, and shading and a similar lack in response to inquiry. I refer here to such abortive *M* responses as "a figure of some sort" to the whole of Card IV or figures without the extended arms or hands on Cards I, VII, and IX; I refer also to such abortive color and shading responses as butterflies, flowers, and animal skins in the usual areas. Records that have these abortive responses are prognostically more encouraging than those that do not have anything like them or else still have, as residues of the psychotic break, too many of the uncontrolled color and shading responses together with movement responses that are of minus form quality or are mildly confabulated. On the whole, this type of struggling patient may be said to be playing it safe with regard to freedom of fantasy and of involvement with others, even though some potential and readiness for these ventures may be identified. On direct observation they may appear to be managing their lives more securely and stably than is actually the case, for on close clinical inspection they may be found to have established a narrow life space, a rigid social role, an over-cautious selectivity, or a nondelusional but implicitly grandiose take-charge attitude on the hospital ward, from any of which it would be unsafe to extrapolate to their readiness for the complex functioning required at home and work, places where one cannot so readily control the influx of stimuli or get by on appearances.

The patients I am describing are sometimes rushed along too fast by the inpatient staff; even more often are they rushed too



fast by the impatient family. One form of rushing them is demanding more complex, involved, and sustained performances than they are ready for, and also attacking them for setting limits on what they will undertake. As a therapist, one must learn to accept implicit supervision from these patients, for they often know something about their present limits and vulnerability that the therapist and staff do not know, and that is something that the tester can find out something about. In this way, correct test interpretation can help the therapy and disposition greatly.

Finally, I want to mention certain brain damaged patients. Their efforts to avoid the "catastrophic reaction," as described by Kurt Goldstein, are too well known to require review here. But one must remember, too, that more than avoidance and denial are in question in these cases, and more than the anger, depression, pseudo-compulsive rigidity, and pseudo-paranoid defensiveness that one frequently observes. If we are prepared to do so we can also see that these patients are attempting to salvage some last threads of personal continuity and self-esteem or dignity in a situation that is fundamentally and painfully discontinuous and humiliating.

One such patient — a highly cultured and once highly successful man with a worldwide cosmopolitanism — kept emphasizing how clever and dainty the Rorschach stimuli were, how lovely and interesting the TAT pictures — even the graveyard picture (#15) how ingenious the WAIS questions, and, in a most gentlemanly way, how attractive and considerate the tester, all the while being barely able to respond adequately or at all to the test items. This was his story to Card I of the TAT: it tells of a completely orderly and benign universe.

A violin student... He's very much interested... He should be able to make headway. He's probably in the seventh or eighth position, which is pretty good for his age. Maybe even higher. He's glancing at his future in the little violin. His studying is very well planned: there's no rush; nothing improvised. This is not his first lesson — well, I implied that before. He's doing exactly what he would like to do... He's a very delicate boy, not a ruffian; a very neat boy, and well-brought up, very

respectful, responsible. His parents are completely in accord with him: they wanted him to study the violin. But he studies not just to please them, but to please himself. And he's very good at it... perhaps he has no sisters or brothers: he's the epicenter of his little universe. (How does it end?) By his being a successful concert artist.

But then, about two-thirds of the way through this test, he became disturbed on 7BM, the "father-son" picture, complained about the tester's (appropriate) nondirective responses to his anxious requests for guidance, characterized her as cold and Gestapo-like, asserted that he was after all a human being, and refused to go on with the test.

Altogether, his test performance amounted to a noble effort on his part, and a very sad one, and it said something about the kind of therapeutic approach and response he needed in support of what was left of his humanness. The test report had to emphasize the extent of his deficit, of course, but it also had to feature the ongoing struggle for personal continuity and dignity, and to recognize also the patient's struggle against depressive decomensation under the circumstances.

I regret that I have not had unlimited time for this talk as I would have then had an opportunity both to expand my discussion of appreciative, affirmative clinical thinking and to present complete sets of test results in order to illustrate the approach I am recommending. As it is, I have run the risk of coming across as soupy or evangelical, as too identified with the patient or too lacking in recognition that many of you must have been thinking along these lines in connection with your own work with tests and therapy. On my own behalf I can only say two things in conclusion: first, as a grateful recipient of the honor bestowed on me today, I wanted to share with you one of my current concerns and my way of dealing with it, and second, I wanted to say that as a teacher of those learning to do testing and therapy, I have become increasingly aware of the need to teach *balanced appraisal* of patient behavior that is apparently simply pathological. It is, to be sure, pathological behavior — I would not want to minimize this point in the least — but as



Freud pointed out long ago, something of value for the life of the patient may be extracted from it as well. It is our bal-

ance, however unsteady, that will help patients gain or regain some balance of their own.

## PUBLICATIONS

of

Roy Schafer

- A table of random numbers from selective service numbers. *Journal of Psychology*, 1942, 14, 295-305. (In collaboration with J. C. Peatman.)
- The role of autism in a visual figure-ground relationship. *Journal of Experimental Psychology*, 1943, 32, 335-343. (In collaboration with G. Murphy.)
- The clinical significance of the scatter on the Bellevue scale. *Bulletin of the Menninger Clinic*, 1943, 7, 93-98. (In collaboration with S. Reichard.)
- The significance of scatter in research and practice of clinical psychology. *Journal of Psychology*, 1944, 18, 119-124.
- The scatter in diagnostic intelligence testing. *Character and Personality*, 1944, 12, 275-284. (In collaboration with D. Rapaport.)
- Manual of diagnostic psychological testing*. New York: Macy Foundation Review Series; Vol. I — 1944, Vol. II — 1946. (In collaboration with D. Rapaport and M. M. Gill.)
- A study of thought processes in a word association test. *Character and Personality*, 1945, 13, 212-227.
- Clinical evaluation of a word association test. *Bulletin of the Menninger Clinic*, 1945, 9, 84-88.
- The Rorschach test: A clinical evaluation. *Bulletin of the Menninger Clinic*, 1945, 9, 73-77. (In collaboration with D. Rapaport.)
- Diagnostic psychological testing*. Chicago: Year Book Publishers, Vol. I — 1945, Vol. II — 1946. (In collaboration with D. Rapaport & M. M. Gill.)
- The expression of personality and maladjustment in intelligence test results. *Annals of the N. Y. Academy of Sciences*, 1946, 46, 609-623.
- The psychological internship training program of the Menninger Clinic. *Journal of Consulting Psychology*, 1946, 10, 216-220. (In Collaboration with D. Rapaport.)
- On the objective and subjective aspects of diagnostic testing. *Journal of Consulting Psychology*, 1948, 12, 4-7.
- The new role of psychological testing in psychiatry. *American Journal of Psychiatry*, 1947, 103, 473-476. (In collaboration with K. A. Menninger & D. Rapaport.)
- A study of personality characteristics related to hypnotizability*. Unpublished Master's Thesis, University of Kansas, 1947.
- The clinical application of psychological tests*. New York: International Universities Press, 1948.
- Review: *The Thematic Apperception Test*, by M. Stein. *Journal of Abnormal & Social Psychology*, 1949, 44, 429-431.
- Review: *Projective methods*, by L. K. Frank. *Psychoanalytic Quarterly*, 1949, 18, 247-249.
- Review: *Experimental studies in psychodynamics*, by D. W. MacKinnon & M. Henle. *Psychoanalytic Quarterly*, 1949, 18, 247.
- Psychological tests in clinical research. *Journal of Consulting Psychology*, 1949, 13, 328-334.
- The case of Gregor: Wechsler-Bellevue Scale and Word Association Test. *Journal of Projective Techniques*, 1949, 13, 434-438.
- Review: *The Szondi Test*, by S. Deri. *Journal of Abnormal & Social Psychology*, 1950, 45, 184-188.
- Need as a determinant of perception: A reply to Pastore. *Journal of Psychology*, 1951, 31, 129-136. (In collaboration with G. Murphy et al.)
- Selective response to oral content: A study of inter-function reliability*. Unpublished Doctoral Dissertation, Clark University, 1950.
- The Wechsler-Bellevue Scale as a projective technique. In H. H. Anderson & G. L. Anderson (Eds.) *An introduction to projective Techniques*. New York: Prentice-Hall, 1951. (In collaboration with M. Mayman & D. Rapaport.)
- Word Association Test. In A. Weider (Ed.), *Contributions toward medical psychology*. New York: Ronald Press, 1953.
- Content analysis in the Rorschach test. *Journal of Projective Techniques*, 1953, 17, 335-339.
- Psychoanalytic interpretation in Rorschach testing*. New York: Grune & Stratton, 1954.
- Some applications of contemporary psychoanalytic theory to projective testing. *Journal of Projective Techniques*, 1954, 18, 441-447.
- Psychological test analysis of personality change during intensive psychotherapy. *Psychiatry*, 1955, 18, 175-192.
- Transference in the patient's reaction to the tester. *Journal of Projective Techniques*, 1956, 20, 26-32.
- Review: *Wechsler Adult Intelligence Scale (WAIS)*, by D. Wechsler. *Journal of Consulting Psychology*, 1956, 20, 157-159.
- Duodenal ulcer in one of identical twins. *Psychosomatic Medicine*, 1957, 19, 221-227. (In collaboration with M. Pilot et al.)
- Regression in the service of the ego: The relevance of a psychoanalytic concept for personality assessment. In G. Lindzey, (Ed.), *Assessment of human motives*. New York: Rinehart, 1958.
- On the psychoanalytic study of retest results. *Journal of Projective Techniques*, 1958, 22, 102-109.

- How was this story told? *Journal of Projective Techniques*, 1958, 22, 181-210.
- Generative empathy in the treatment situation. *Psychoanalytic Quarterly*, 1959, 28, 342-373.
- Review: *Collected papers: Through pediatrics to psychoanalysis*, by D. W. Winnicott. *Contemporary Psychology*, 1960, 5, 282-283.
- Bodies in schizophrenic Rorschach responses. *Journal of Projective Techniques*, 1960, 24, 267-281.
- The loving and beloved superego in Freud's structural theory. *Psychoanalytic Study of the Child*, 1960, 15, 163-188.
- Representations of perceiving and acting in psychological test results. J. G. Peatman & E. L. Hartley, (Eds.), *Festschrift for Gardner Murphy*. New York: Harper & Bros., 1960.
- Review: *Countertransference*, by B. Wolstein. *Contemporary Psychology*, 1961, 6, 147-148.
- TAT stories of hypomanic and depressed patients. *Journal of Projective Techniques*, 1961, 25, 221-232. (In collaboration with B. Welch & C. F. Dember.)
- Reprint: Transference in the patient's reaction to the tester. In M. H. Sherman (Ed.), *A Rorschach reader*. New York: International Universities Press, 1961.
- Duodenal ulcer in one of identical twins: A follow-up study. *Psychosomatic Medicine*, 1963, 25, 285-291. (In collaboration with M. Pilot et al.)
- Discussion in P. H. Knapp (Ed.), *Expression of emotions in man*. New York: International Universities Press, 1963.
- Interictal psychosis in psychomotor-temporal lobe epilepsy: An EEG psychological study. In G. H. Glaser (Ed.), *EEG and behavior*. New York: Basic Books, 1963. (In collaboration with G. H. Glaser & R. J. Newman.)
- The clinical analysis of affects. *Journal of the American Psychoanalytic Association*, 1964, 12, 275-299.
- Introduction to: *Dragons, delinquents and destiny*, by W. Lederer. In *Psychological Issues*, 1964, 4, 3. New York: International Universities Press.
- Panel Report: Contributions of longitudinal research to psychoanalytic theory. *Journal of American Psychoanalytic Association*, 1965, 13, 605-618.
- Psychological tests in clinical psychiatry. Chapter 8. In *The theory and practice of psychiatry*, F. C. Redlich & D. X. Freedman. New York: Basic Books, 1966.
- Talent as danger: Psychoanalytic observations on academic difficulty. In L. A. Pervin, L. E. Reik, & W. Darylmp (Eds.), *The college dropout and the utilization of talent*. Princeton, N.J.: Princeton University Press, 1966.
- Projective testing and psychoanalytic theory: Selected papers*. New York: International Universities Press, 1967.
- Ideals, the ego ideal and the ideal self. In R. R. Holt (Ed.), *Contributions to a psychoanalytic theory of behavior: Essays in honor of David Rapaport*. New York: International Universities Press, 1967.
- Review: Ego autonomy and the return of repression: Critical evaluation of Ego autonomy re-evaluated, by R. R. Holt. *International Journal of Psychiatry*, 1967, 3, 515-518.
- Aspects of internalization*. New York: International Universities Press, 1968.
- On the theoretical and technical conceptualization of activity and passivity. *Psychoanalytic Quarterly*, 1968, 37, 173-198.
- The Mechanisms of defense. *International Journal of Psychoanalysis*, 1968, 49, 49-62.
- Is psychoanalysis an effective treatment for psychoneuroses? *Modern Medicine*, 1969, 37, 3, 199.
- Requirements for a critique of the theory of catharsis. *Journal of Consulting and Clinical Psychology*, 1970, 35, 13-17.
- Review: *The divided self and self and others*, by R. D. Laing. *Contemporary Psychology*, 1970, 15, 542-543.
- The psychoanalytic vision of reality. *International Journal of Psychoanalysis*, 1970, 51, 279-297.
- An overview of Heinz Hartmann's contributions to psychoanalysis. *International Journal of Psychoanalysis*, 1970, 5, 425-446.
- Internalization: Process or fantasy? *Psychoanalytic Study of the Child*, 1972, 27, 411-438.
- Review: *Perception, motives, and personality*, by G. S. Klein. *Psychoanalytic Quarterly*, 1972, 51, 265-268.
- Action: Its place in psychoanalytic interpretation and theory. *Annual of Psychoanalysis*, 1973, 1, 159-196.
- Concepts of self and identity and the experience of separation-individuation in adolescence. *Psychoanalytic Quarterly*, 1973, 42, 42-59.
- The idea of resistance. *International Journal of Psychoanalysis*, 1973, 54, 259-285.
- The termination of brief psychoanalytic psychotherapy. *International Journal of Psychoanalytic Psychotherapy*, 1973, 2, 135-148.
- A psychoanalytic view of affect. *Philosophical Studies*, 1974, 22, 157-167.
- Problems in Freud's psychology of women. *Journal of American Psychoanalytic Association*, 1974, 22, 459-485.
- Talking to patients in psychotherapy. *Bulletin of the Menninger Clinic*, 1974, 38, 503-515.
- Psychoanalysis without psychodynamics. *International Journal of Psychoanalysis*, 1975, 56, 41-55.
- Emotion in the language of action. *Psychological Issues*, 1976, 36, 106-133.
- A new language for psychoanalysis*. New Haven & London: Yale University Press, 1976.
- Review: *Selected papers on psychoanalysis*, by Ernst Kris. *London Times Literary Supplement*, 1976, July 23, 923-924.
- Danger situations. *Bulletin of the Menninger Clinic*, 1976, 40, 459-478.

The interpretation of transference and the conditions for loving. *Journal of the American Psychoanalytic Association*, 1977, 25, 335-362.

Review: *Life history and the historical moment*, by Erik Erikson. *Psychoanalytic Quarterly*, 1977, 46, 544-545.

Psychoanalytic methodology in Helene Deutsch's *The psychology of women*. *Psychoanalytic Quarterly*, 1977, 46, 287-318, (in collaboration with M. Wimpfheimer.)

Introduction to: *A history of aggression in Freud*, by S. Stepansky. *Psychological Issues*, 1977, 39, 1-4.

Psychoanalysis and common sense. *The Listener*, 1977, Nov. 10, 609-610.

*Language and insight: The Sigmund Freud memorial lectures*, University College London, 1975-1976. New Haven & London: Yale University Press, 1978.

Conflict as paradoxical action. *Psychoanalysis and Contemporary Thought*, 1978, 1, 3-20.

## Further Comments on Criteria for Reimbursement for Psychological Assessments

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*Summary:* Bruhn (1978) has offered some comments about criteria for CHAMPUS reimbursement. These criteria are CHAMPUS-specific and subject to modification for other health plans. Deviations are subject to peer review and may be approved for reimbursement. Expert opinion is widely solicited to justify the criteria.

Bruhn (1978) has commented on the criteria for reimbursement for psychological assessments that have been developed by the National Advisory Panel for the CHAMPUS project (Stricker, 1978). His comments express much-appreciated approval of the appropriateness of the criteria for assessment of adolescents and adults, but raise some questions about their applicability to the assessment of children. His comments provide the opportunity to clarify some aspects of the criteria which may not have been sufficiently explicated in the initial presentation.

First, the criteria have been proposed for a specific health plan, the Civilian Health and Medical Plan for the Uniformed Services (CHAMPUS), and were constructed with the regulations of that plan in mind. Since educational assessment, hyperactivity and learning disabilities are not covered by the plan, these were not of concern in drafting the criteria. They are the conditions that lead Bruhn to suggest that child assessment may require more than the allotted time. Whether or not additional time would be required is moot for the purposes of the criteria, since the services would not be covered in any case. However, it should be noted that the criteria have been adapted to meet local situations and used with other third party payers, e.g., Blue Cross of Massachusetts. Thus, if an insurance plan covered assessment for learning disabilities, and if a consensus of experts indicated that more than six hours was ordinarily required, the criteria could be expanded to include this provision.

It is important to note the use of the word "ordinarily" in the preceding sentence. The criteria were constructed to reflect usual and customary practice, with a recognition that unusual situations may call for atypical procedures. If an assessment, whether it involves a child or not, requires additional time because of some special feature of the clinical picture, that practice still may be fully reimbursed if it passes peer review. The criteria are not quasi-regulations, but are flags for review. If a panel of qualified peers agree that a practice, no matter how atypical, was clinically justified, it will be reimbursed.

Finally, Bruhn suggests that the Panel solicit opinions from a group of qualified child diagnosticians as to the proper time to allow for an assessment. This is a very appropriate suggestion and, in fact, one which we have been following from the beginning. We have been very fortunate in the cooperation we have received from colleagues, enabling many of the criteria to be based on a distillation of expert opinion going well beyond that of the Panel. This procedure has been fruitful in the past, and it is one which we intend to continue to follow as we further modify and refine the existing criteria.

### References

- Bruhn, A. R. A reply to Stricker's criteria for insurance reimbursement for psychological assessments. *Journal of Personality Assessment*, 1978, 42, 464-465.
- Stricker, G. Personality assessment and insurance reimbursement. *Journal of Personality Assessment*, 1978, 42, 317-318.



## Comment on "Personality Organization as an Aspect of Back Pain in a Medical Setting"

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*Summary:* The methodology and results of a recent investigation by Louks, Freeman, and Calsyn (1978) are reviewed. It is demonstrated that the results may have been confounded by inappropriate experimental procedures. Regardless of the methodological deficiencies associated with the experimental procedures, the results do not provide adequate support for the continued differentiation of individual low back pain patients with respect to the etiology of their pain. It is suggested that psychologists may best contribute to the assessment and treatment of individual pain patients by developing actuarial rules regarding the pain-related behavioral characteristics shared by members of various patient subgroups and the specific treatments to which subgroup members best respond.

Louks, Freeman, and Calsyn (1978) recently reported the results of an investigation regarding the differentiation of various MMPI profile subgroups within samples of "organic," "mixed," and "functional" low back pain (LBP) patients. The results of the investigation led to the conclusions that (a) there is little evidence of validity for the concept of a homogeneous pain personality; (b) examination of mean MMPI profiles of various patient groups provides little useful information regarding individual patients; and (c) there are many types of psychopathology which may be associated with "functional" low back pain (Louks et al., 1978).

Two of the current authors have presented evidence (Bradley, Prokop, Margolis, & Gentry, in press; Prokop, Bradley, Margolis, & Gentry, Note 1) which provides independent support for conclusions (a) and (b) above. With regard to conclusion (c), we believe that the data reported by Louks et al. (1978) suggest that LBP patients display many different forms of psychopathology; the evidence also suggests, moreover, that there is little to be gained by classifying the etiology of patients' pain as "organic," "mixed," or "functional." The current paper will (a) critically review the methodology and results of the Louks et al. (1978) investigation and (b) demonstrate that the results do not support the continued classification of individual LBP patients on the

basis of the degree of "organic" or "functional" etiology of their pain. In addition, suggestions will be made for future research that may lead to more adequate assessment and treatment of individual LBP patients.

### *Methodological Review*

The major aspects of the procedure used by Louks et al. (1978) were (a) the classification of 74 LBP patients as "organic," "mixed," or "functional" based on the diagnostic judgments of an unspecified number of orthopedic physicians; and (b) the sorting of patients' MMPI profiles into one of six profile subgroups on the basis of rules developed by Pichot, Perse, Lekeux, Dureau, Perez, and Rychewaert (1972). The following discussion provides criticisms of both aspects of the procedure used by Louks et al. (1978).

### *Criticisms of Patient Classification*

A major controversy exists regarding whether or not there are any personality differences between patients with or without an organic basis for their pain (cf. Chapman, 1977; Hanvik, 1951; McCreary, Turner, & Dawson, 1977; Sternbach, Wolf, Murphy, & Akesson, 1973). A recent review (Liebeskind & Paul, 1977) has suggested that investigators have failed to show consistent relationships between various personality dimensions and the presence or absence of organic impairment in chronic pain patients. As

a result, the extent to which chronic pain is viewed as psychogenic (i.e., "functional") is being increasingly deemphasized. Loukset al. (1978), therefore, may have made an unwarranted assumption that "organic," "mixed," and "functional" patients differed on some important dimensions. Furthermore, even if differences actually existed between patient groups, the procedure of using an unspecified number of physicians to classify patients into one of three etiological groups is subject to criticism. Feinstein (1977) notes that diagnoses may be validated either by external or internal procedures. It is clear that there was no *direct* external evidence available to physicians to validate diagnoses of "mixed" and "functional" pain. That is, given the numerous factors (e.g., age, social class, cultural background) which may affect persons' perceptions of pain (Weisenberg, 1977), individual physicians could not determine with great accuracy whether or not physiological factors were insufficient to account for the amount of pain and disability reported by patients. Even the medically-oriented DSM-III (1978, p. 1:9) cautions that "mere dramatic presentation of a pain complaint, which may seem excessive to an observer because of slight physical findings, is not a basis for diagnosing Psychalgia" (i.e., "functional" pain). Internal validation of physicians' diagnoses might have been provided by consensual agreement with other professionals (see Feinstein, 1977, p. 197). However, the failure of Louks et al. (1978) to establish a procedure for the measurement of interdiagnostician agreement with respect to the classification of patients made it impossible to assume that physicians' judgments were valid.

### *Criticisms of Patient Profile Sorting*

The sorting of patients' MMPI profiles on the basis of rules established by Pichot et al. (1972) may be criticized on the grounds that (a) the sorting rules contain several deficiencies; and (b) there is no evidence to suggest that the sorting rules are generalizable to American LBP patients.

It should also be noted that the rules de-

rived by Pichot et al. (1972) from MMPI responses of female patients may not be appropriate for use with male patients' MMPI profiles. Indeed, both Bradley et al. (in press) and Sternbach et al. (1973) have found sex differences with regard to LBP patients' MMPI profiles.

*Deficiencies associated with the sorting rules.* Examination of the sorting rules developed by Pichot et al. (1972) reveals several important deficiencies. The first deficiency may be found in the sorting rule for the "conversion V" subgroup (Louks et al., 1978). Bradley et al. (in press) note that the MMPI "conversion V" profile is characterized by elevations ( $T \geq 70$ ) only on scales  $Hs$  and  $Hy$ ; when scales  $Hs$ ,  $D$ , and  $Hy$  are all elevated, a profile may not be described as a "conversion V" (Sternbach et al., 1973). However, on the basis of the sorting rule developed by Pichot et al. (1972), an MMPI profile characterized by a V-shaped configuration on scales  $Hs$ ,  $D$ , and  $Hy$  may be classified as a member of the "conversion V" subgroup in spite of an elevated score on scale  $D$  (e.g.,  $Hs \geq D$  and  $Hy \geq D$  where  $Hs$ ,  $D$ , and  $Hy$  are all greater than 70). In addition, a profile may be included in the "conversion V" subgroup even if the V-shaped configuration is absent (e.g.,  $HS > D > Hy > 70$ ). Thus, two MMPI profile subgroups previously identified by other investigators may actually be classified within the "conversion V" subgroup according to the sorting rules established by Pichot et al. (1972). These are the true "conversion V" and the "hypochondriacal" (characterized by elevations on scales  $Hs$ ,  $D$ , and  $Hy$ ) subgroups previously found by both Bradley et al. (in press) and Sternbach (1974) within independent samples of LBP patients.

A second deficiency may be found in the sorting rule for the "conversion V without defensiveness" profile subgroup ( $Hs \geq D$  and  $Hy \geq D$  and  $K \geq 60$  with  $K < Hy$  or  $K < Hs$ ). The sorting rule would permit inclusion within the subgroup of a profile characterized by a V-shaped configuration on the neurotic triad and elevations on scales  $D$  or  $K$ . Thus, it would be possible to classify a profile as "nondefensive" despite an unusually high score on

scale *K*. This strongly suggests that either the subgroup must be renamed or the rule modified.

Finally, there is no sorting rule associated with the "normal" profile subgroup. One might presume that MMPI profiles which were within normal limits on all scales were classified as "normal" by Louks et al. (1978). However, MMPI profiles which were within normal limits on all scales may be included in the "denial" or either of the two "conversion *V*" subgroups according to the sorting rules established by Pichot et al. (1972). It is unclear, therefore, what configurations constituted the "normal" group in the ensuing data analyses.

*Cross-cultural application of the sorting rules.* The sorting of LBP patients' MMPI profiles on the basis of the rules developed by Pichot et al. (1972) may also be criticized on the grounds that there was no evidence to suggest that the rules were generalizable to American LBP patients. Indeed, the fact that 10 of 74 (13.5%) LBP patients in the Louks et al. (1978) investigation could not be successfully classified using the sorting rules suggests that the sorting rules may have been inadequate. Several of the profile subgroups identified by Pichot et al. (1972), moreover, have not been consistently found in investigations of American LBP patients. While Bradley et al. (in press) have identified profile subgroups similar to the "denial" and "psychotic" subgroups of Pichot et al., Sternbach (1974) has failed to find equivalent subgroups within his patient sample. In addition, while Sternbach (1974) has found a subgroup similar to the "depressed/anxious" subgroup of Pichot et al. (1972), Prokop et al. (Note 1) have identified an equivalent subgroup only among patients with multiple pain complaints. The evidence reviewed above, therefore, strongly suggests that the use of the Pichot et al. (1972) sorting rules with American LBP patients may not have been appropriate.

### *Review of the Results and Conclusions*

#### *Results*

Three major findings were reported by Louks et al. (1978). First, it was reported

that the various MMPI profile subgroups were not disproportionately represented within the "organic," "mixed," and "functional" patient classifications. Second, it was found that the five "pathological" MMPI subgroups consistently produced significantly higher scores on the *Lb* (Hanvik, 1951) and *DOR* (Pichot et al., 1972) MMPI functional pain scales. Finally, it was reported that LBP patients classified as "organic" achieved significantly lower scores on the *Lb* and *DOR* scales than did patients classified as "mixed" or "functional." The preceding discussion regarding the methodological deficiencies in the Louks et al. (1978) investigation suggests that the results may have been confounded by inappropriate experimental procedures. Nevertheless we will demonstrate that, even if the experimental procedures were free of methodological error, the continued differentiation of individual LBP patients as "organic," "mixed," or "functional" would not be supported on the basis of the results reported by Louks et al. (1978).

It should be noted that the finding that the various MMPI profile subgroups were not disproportionately represented within the various patient classifications is extremely important. That is, if it were assumed that the physicians could provide valid discriminations between patients with pain of different etiologies, the evidence would suggest that the "normal" and "pathological" MMPI profile subgroups were not differentially associated with particular patient classifications. The additional finding of a significant tendency for patients with "normal" MMPI profiles to be classified as "organic" may be considered tentative due to the relatively high probability of Type I error associated with six chi-square analyses performed across profile subgroups.

Given the lack of significant findings reported above, it appears that Louks et al. (1978) justified their conclusion regarding the presence of many forms of psychopathology within the "functional" LBP patient population on the basis of two comparisons. These were the comparisons of the (a) "pathological" and "normal" profile subgroups and (b) "organic,"



"mixed," and "functional" patient classes with respect to patients' scores on the *Lb* and *DOR* "functional" pain scales.

The validity of the *Lb* and *DOR* scales, however, has not been satisfactorily established. Towne and Tsushima (1978) reported that although the successful discrimination of "functional" from "organic" LBP patients with the *Lb* scale originally reported by Hanvik (1951) was later replicated by Dahlstrom (1954), more recent evidence suggests that the validity of the *Lb* scale is questionable. Indeed, the lack of cross-validated support for the *Lb* scale prompted Pichot et al. (1972) to develop the *DOR* scale of "functional" pain. Freeman, Calsyn, and Louks (1976) found that neither the *Lb* nor the *DOR* scale alone successfully discriminated "mixed" and "functional" LBP patients from "organic" patients; when both scales were used together, however, 75% of all LBP patients were correctly classified. Contrary to the results above, Towne and Tsushima (1978) found that the simultaneous use of the *Lb* and *DOR* scales failed to discriminate at more than a chance level "functional" LBP patients from patients with either (a) gastrointestinal complaints not fully substantiated by medical evaluations, or (b) emotional problems. It was concluded that the *Lb* and *DOR* scales are not sensitive to responses that are unique to persons with "functional" back pain; instead, the scales appear to measure characteristics common to persons with back pain, psychoneurosis and questionable gastrointestinal disorders (Towne & Tsushima, 1978, p. 90).

The preceding evidence suggests that there was probably a great deal of overlap between (a) "normal" and "pathological" MMPI subgroup members and (b) "organic," "mixed" and "functional" LBP patients with regard to their scores on the *Lb* and *DOR* scales. Louks et al. (1978) did, in fact, report that MMPI subgroup membership and LBP patient classification accounted for only 24% and 18%, respectively, of the variance in patients' *Lb* scale scores; the same variables accounted for only 15% and 27%, respectively, of the variance in patients' *DOR* scale scores. The failure of the *Lb* and

*DOR* scales to provide clear-cut discriminations between patient groups strongly suggests that individual group members probably could not be differentiated with great accuracy from one another on the basis of their scores on the *Lb* and *DOR* scales.

The lack of discriminative power associated with the "functional" pain scales is of great consequence to the practitioner. That is, even if it were assumed that the sorting rules and physicians' diagnostic judgments were valid, it would be quite hazardous to base treatment decisions upon LBP patients' *Lb* and *DOR* scale scores. To summarize, then, regardless of the methodological deficiencies associated with the experimental procedures, the results reported by Louks et al. (1978) do not provide adequate support for the continued differentiation of individual LBP patients with respect to the etiology of their pain.

### Conclusions

Given the paucity of differences between LBP patient groups, we seriously question the conclusion that many forms of psychopathology may be found only among "functional" LBP patients. We believe that it is more appropriate to conclude that many forms of psychopathology may be found within the LBP patient population, regardless of the etiology of patients' pain (cf. Chapman, 1977). (This notion was elegantly expressed by Merskey [1977] who noted that "in pain clinics it is rare to meet anyone amongst the patients whose emotional state is really normal" [p. 118].)

In addition, we believe that the results of the Louks et al. (1978) investigation suggest that it is inappropriate to continue to classify the etiology of LBP patients' pain as "organic," "mixed," or "functional." It is indeed apparent that the classification of LBP patients with regard to the etiology of their pain has not contributed to the identification of optimal treatments for the pain experienced by "organic," "mixed," and "functional" patients (cf. Cairns, Thomas, Mooney, & Pace, 1976; Liebeskind & Paul, 1977; Newman, Seres, Yospe, & Garlington, 1978). The question remains,



however, regarding how psychologists may best use their skills to aid in the assessment and treatment of individual patients with low back and other forms of debilitating pain.

Two of the current authors have previously demonstrated that it is possible to delineate through a multivariate clustering procedure replicable, homogeneous MMPI profile subgroups among several independent samples of male and female LBP and multiple pain patients (Bradley et al., in press; Prokop et al., Note 1). Fordyce (1976) has suggested that psychologists may regard individuals with a particular MMPI configuration as possibly possessing different behavioral attributes than persons who produce another scale configuration. Thus, various pain patient subgroups may differ from one another in terms of their characteristic pain-related behaviors and/or the treatments that may best help them to eliminate, reduce, or learn to better live with their pain. It may be quite useful for psychologists to abandon the task of differentiating "organic," "mixed," and "functional" pain patients and to redirect their efforts toward the delineation of (a) replicable MMPI profile subgroups within their respective pain patient populations, and (b) the pain-related, behavioral correlates uniquely associated with each profile subgroup. It would then be possible to conduct controlled investigation of the question, "What specific treatments may be applied to what pain patient subgroups to best modify what specific, pain-related behaviors?" (cf., Bradley et al., in press). Put another way, psychologists may best contribute to the assessment and treatment of individual pain patients by developing actuarial rules regarding the pain-related behavioral characteristics shared by members of various patient subgroups and the specific treatments to which subgroup members best respond.

#### Reference Note

1. Prokop, C. K., Bradley, L. A., Margolis, R., & Gentry, W. D. *Multivariate analyses of the MMPI profiles of multiple pain patients*. Program report presented at the meeting of the Southeastern Psychological Association, Atlanta, March, 1978.

#### References

- Bradley, L. A., Prokop, C. K., Margolis, R., & Gentry, W. D. Multivariate analyses of the MMPI profiles of low back pain patients. *Journal of Behavioral Medicine*, in press.
- Cairns, D., Thomas, L., Mooney, V., & Pace, J. B. A comprehensive treatment approach to chronic low back pain. *Pain*, 1976, 2, 301-308.
- Chapman, R. C. Psychological aspects of pain patient treatment. *Archives of Surgery*, 1977, 112, 767-772.
- Dahlstrom, W. G. Prediction of adjustment after neurosurgery. *American Psychologist*, 1954, 9, 353.
- Diagnostic and Statistical Manual (DSM-III)*. Washington, D. C.: American Psychiatric Association, 1978.
- Feinstein, A. R. A critical overview of diagnosis in psychiatry. In V. M. Rakoff, H. C. Stancer, & H. B. Kedward (Eds.), *Psychiatric diagnosis*. New York: Brunner/Mazel, 1977.
- Fordyce, W. E. *Behavioral methods for chronic pain and illness*. St. Louis: C. V. Mosby, 1976.
- Freeman, C. W., Calsyn, D. A., & Louks, J. The use of the Minnesota Multiphasic Personality Inventory with low back patients. *Journal of Clinical Psychology*, 1976, 32, 294-298.
- Hanvik, L. J. MMPI profiles in patients with low back pain. *Journal of Consulting Psychology*, 1951, 15, 350-353.
- Liebeskind, J. C., & Paul, L. A. Psychological and physiological mechanisms of pain. In M. R. Rosenzweig & L. W. Porter (Eds.), *Annual review of psychology* (Vol. 28). Palo Alto: Annual Reviews, Inc., 1977.
- Louks, J. L., Freeman, C. W., & Calsyn, D. A. Personality organization as an aspect of back pain in a medical setting. *Journal of Personality Assessment*, 1978, 42, 151-158.
- McCreary, C., Turner, J., & Dawson, E. Differences between functional versus organic low back pain patients. *Pain*, 1977, 4, 73-78.
- Merskey, H. Psychiatric management of patients with chronic pain. In Lipton, S. (Ed.), *Persistent pain: Modern methods of treatment* (Vol. 1). New York: Grune & Stratton, 1977.
- Newman, R. I., Seres, J. L., Yospe, L. P., & Garlington, B. Multidisciplinary treatment of chronic pain: Long-term followup of low-back patients. *Pain*, 1978, 4, 283-292.
- Pichot, P., Perse, J., Lekeux, M. O., Dureau, J. L., Perez, C. I., & Rychewaert, A. La personnalité des sujets présentant des douleurs dorsales fonctionnelles valeur de l'Inventaire Multiphasique de Personnalité du Minnesota. *Revue de Psychologie Appliquée*, 1972, 22, 145-172.
- Sternbach, R. A. *Pain patients: Traits and treatments*. New York: Academic Press, 1974.
- Sternbach, R. A., Wolf, S. R., Murphy, R. W., & Akeson, W. H. Aspects of chronic pain: The low-back "loser." *Psychosomatics*, 1973, 14, 226-229.

Towne, W. S., & Tsushima, W. T. The use of the low back and the dorsal scales in the identification of functional low back patients. *Journal of Clinical Psychology*, 1978, 34, 88-91.

Weisenberg, M. Pain and pain control. *Psychological Bulletin*, 1977, 84, 1008-1044.

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## The Usefulness of the Rorschach Prognostic Rating Scale — A Rebuttal

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**Summary:** In rebuttal to the recent article by Garwood (1977), this paper presents a framework for evaluating the usefulness of the Rorschach Prognostic Rating Scale for predicting success in psychotherapy. A critical review of the research findings cited by Garwood is presented, followed by a discussion of the overall usefulness of the instrument as a predictive measure in light of the framework suggested. It is concluded the scale is not yet proven to be of great clinical usefulness, as its degree of discriminability is not great enough for basing clinical judgments.

Garwood (1977) alleged that the Rorschach Prognostic Rating Scale (RPRS) scores successfully predicted therapeutic outcome in eight studies involving eleven client groups (Adams, Cooper, & Carrera, 1963; Bloom, 1956; Cartwright (two groups), 1958; Endicott & Endicott, 1964; Kirkner, Wisham & Giedt, 1953; Mindess, 1953; Newmark, Finkelstein, & Frerking, 1974; Sheehan, Frederick, Rosevear, & Spiegelman, 1954; Seidel, 1960), and showed studies of nonsignificant positive correlations with outcome in three studies (Filmer-Bennett, 1965; Johnson, 1953; Sheehan et al., 1954). Two studies (Bloom, 1956; Whiteley & Blaine, 1967) yielding negative results were cited.

All these studies were concerned with demonstrating a relationship between the RPRS scores and outcome in psychotherapy. A careful review of the eight studies cited as examples of successful prediction reveals serious methodological flaws that render the claimed results highly suspect. In a number of those studies the therapist was the only rater of unspecified "improvement" or an independent rater evaluated the subjects on the basis of old clinical records. This approach produces results that appear to be confounded with therapists' bias. Tantamount in this regard is the problem of establishing and explicating adequate measures of improvement. Many studies failed to adequately define what

was meant by personality change or improvement.

An example of this is found in four of the studies (Cartwright, 1958; Endicott & Endicott, 1964; Mindess, 1953; Sheehan et al., 1954) where the results were confounded with systematic error variance from therapists' bias in outcome determination. The Cartwright (1958) study, which used a very small sample ( $n = 13$ ), did not have independently determined judgment of outcome nor was there any description or definition of the "improved versus unimproved" groups. In the Mindess (1953) study the varying correlations between therapists' ratings strongly suggest the results may have been confounded by varying degrees of expertness of the three therapists involved. Both Sheehan et al. (1954) and Kirkner et al. (1953) failed to explicate or define the criterion measure "improvement." Furthermore, when Sheehan et al. (1954) considered symptom (stuttering) improvement separate from improvement in psychotherapy, they found no relationship between RPRS scores and prediction of change or elimination of stuttering. Bloom (1956) used a highly subjective method of patient dichotomization, and gave no information on the equivalency of the good and poor treatment groups. In the Newmark et al. (1974) study it appears the outcome criteria were confounded with therapists' bias; that improvement was confounded with diagnosis and that regression of criterion MMPI scores could account for the "improved" ratings of some of the patients. While Seidel (1960) reported a significant correlation ( $r = .40, p < .05$ ) between

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the RPRS and recovery a slightly stronger correlation ( $r = .46, p < .05$ ) was shown between the Phillips Scale (Phillips, 1953) as a measure of past adjustment and recovery. This study suggests that a measure of previous adjustment may be a better predictor of outcome for hospitalized schizophrenics than the measure of potential ego strength. The study by Adams et al. (1963) was a concurrent rather than a predictive validity study. They ran 136 correlations between every component of the RPRS and 17 MMPI scales. While they reported 23 "significant" correlations and claimed the results were twice what one would expect by chance, 11 of the 23 correlations were at the .10 level. Even this cursory review of the evidence used to support the usefulness of the RPRS indicates that confounding factors could readily account for the purported predictive validity of the instrument.

Along with the specific problems discussed above, general problems related to predictive validity studies concerned with demonstrating a relationship between protocol RPRS scores and outcome in psychotherapy must be considered. As Goldfried (1966) points out, several areas of difficulty arise in attempting to establish criterion related validity. Specifically, these involve the problems of base rate and the problem of overlap between groups.

The concept of base rate was first introduced by Meehl and Rosen (1955). They pointed out that a test score is useful only to the extent that it improves on the number of correct judgments that would be made without any such differential testing. Thus, for any variable randomly or normally distributed, any test score that will accurately differentiate a statistically significant number of subjects, will, by definition, be a useful improvement over chance decisions. The more the population base rate for a variable deviates from a 50-50 split, the greater the possibility that a test score which can identify the presence or absence of a variable in a large percentage of a sample drawn from that particular population still may not be useful in making judgments about samples from that population. For example, if the

RPRS were to correctly differentiate 75% of the subjects as having good prognosis for therapy, it would still not be useful for evaluating patients referred to a clinic where the normal rate of successful therapy was 80%. Simply counting all patients as having good prognosis for therapy would yield a higher percentage of correct identifications (80%) than would be attained with the test (75%).

In deciding whether or not to use the RPRS in a particular clinical or research application, a careful comparison must be made of the RPRS's demonstrated "hit rate" for the variable, prognosis for therapy, against the particular institution's base rate incidence of this variable.

The problem of overlap and the frequency of false positives and false negatives was also articulated by Meehl and Rosen (1955). As they pointed out, any measurement device that distinguishes between groups can only be applied to individuals if the overlap between the groups is small enough to permit a good deal of confidence in decisions based on the scale or measurement device.

In estimating prognosis for therapy, the usefulness of the RPRS cannot be claimed by the scale's ability to discriminate between groups of patients who do or do not improve in therapy. The crucial factor is the percent of patients it can correctly identify as good and poor risks for therapy. If the relationship between RPRS scores and outcome in psychotherapy is not strong enough to correctly identify a large percentage of the subjects, its clinical usefulness is limited. It does not appear the required strong relationship has shown up in the reported literature.

The studies on the RPRS have typically reported findings in terms of correlations between RPRS scores and improvement, and no information about the degree of overlap can be extracted from most of the studies. However, in five studies, presented in Table 1, sufficient information was provided to reconstruct the amount of overlap between the improved and unimproved groups. From the data, it appears the overlap was too great to make individual predictions from the scores, notwithstanding "significant" mean differences reported in



Table 1  
*M*, *SD* and Differentiation Rorschach Prognostic Rating Scale Scores

Study	Improved			Not Improved			Pooled <i>SD</i>	$\frac{\bar{d}}{s}$
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>		
Cartwright (1958)	8	7.33	2.59	5	4.54	2.30	2.43	1.12
Endicott et al. (1964)	11	6.58	2.35	10	4.30	2.49	2.54	.90
	16	5.92	1.62	24	3.96	2.75	2.37	.83
Kirkner et al. (1953)	26	6.9	2.46	14	3.38	2.27	2.40	1.34
Newmark et al. (1973)	17	7.32	2.49	10	4.35	1.46	2.18	1.36
Newmark et al. (1974)	18	7.6	2.06	8	5.2	2.11	2.09	1.14

the studies. None of the research carried out thus far has been concerned with the percent of correct judgments attained by the RPRS.

From an analysis of the data presented in the five studies shown in Table 1, the ratio of the difference between the means (improved versus unimproved) to the groups' standard deviation,  $\frac{\bar{d}}{s}$ , was calculated for each sample. The information is presented in Table 1. The ratio was found to be approximately 1 for all five groups. Assuming equal base rates in the clinical population and locating Meehl's "hitmax cut" (Meehl, 1973) mid-

way between the two means (i.e. about .5 sigma units above the mean of the lower frequency distribution [unimproved] and .5 sigma units below the mean of the upper distribution [improved], [Criterion,  $C = 0$ ]) the following percentages result: 34% false positives and 69% hits (actual successes who were predicted successes.) In order to deal with this problem of overlap and the frequency of false positives and false negatives, Meehl and Rosen (1955) have suggested raising or lowering the "hitmax" or cut off score.

From an inspection of Figure 1, it can be seen that if the Criterion,  $C$ , or cut-off

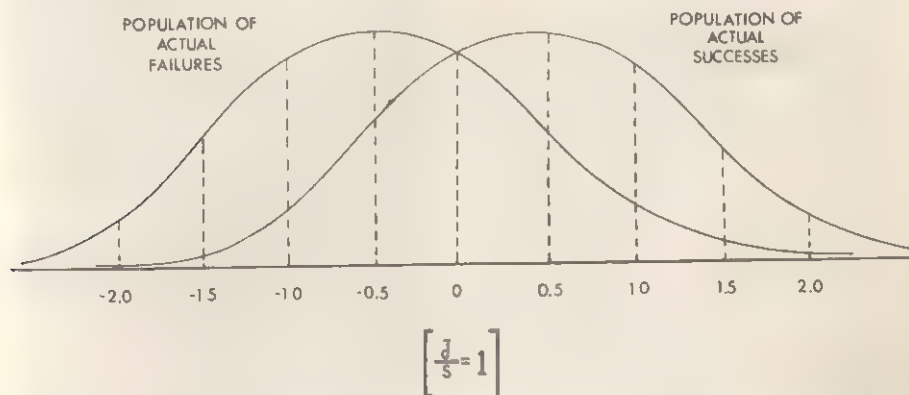


Figure 1. Pictorial representation of percentages of successful predictions with varying Criterion,  $C$ , or cut off score locations.

$C = 0$	31% False Positives 69% Hits	$C = +1.0$	7% False Positives 31% Hits
$C = +.5$	16% False Positives 50% Hits	$C = -1.0$	69% False Positives 93% Hits
$C = -.5$	50% False Positives 84% Hits	$C = +1.5$	2½% False Positives 16% Hits
		$C = -1.5$	84% False Positives 97½% Hits

score is set at +1.5 sigma units above the midway point, the percentage of hits is reduced to 16% and 2½% false positives still remain.

Concerning the tolerance for error due to false positives and false negatives, Meehl and Rosen (1955) argue that whether one type of error is less costly or more tolerable than the other depends upon the particular situation. It can be argued that in trying to predict prognosis for therapy in a clinical setting where the therapists' time is at a premium, one would want to set the cut-off score very high so as to eliminate as many false positives as possible, whereas the resulting number of false negatives, while unfortunate, would not be of as much concern.

From the literature reported to date, it appears that the RPRS is not yet proven to be of great clinical usefulness, since its degree of discriminability is not great enough to make clinical judgments on. Perhaps as psychotherapy outcome research in general improves, and normative data is gathered for the RPRS, its clinical usefulness might be shown.

#### References

- Adams, H. B., Cooper, G. D., & Carrera, R. N. Rorschach and MMPI: A concurrent validity study. *Journal of Projective Techniques*, 1963, 27, 23-34.
- Bloom, B. L. Prognostic significance of the underproductive Rorschach. *Journal of Projective Techniques*, 1956, 20, 366-371.
- Cartwright, R. D. Predicting response to client-centered therapy with the Rorschach Prognostic Rating Scale. *Journal of Counseling Psychology*, 1958, 5, 11-15.
- Endicott, N. A., & Endicott, J. Prediction of improvement in treated and untreated patients using the RPRS. *Journal of Consulting and Clinical Psychology*, 1964, 28, 342-348.
- Filmer-Bennett, G. The Rorschach as a means of predicting treatment outcome. *Journal of Consulting and Clinical Psychology*, 1955, 19, 331-334.
- Garwood, J. A guide to research on the Rorschach Prognostic Rating Scale. *Journal of Personality Assessment*, 1977, 41, 117-119.
- Goldfried, M. R. A suggested approach to the evaluation of projective techniques. *Psychological Reports*, 1966, 18, 111-114.
- Johnson, E. A. Klopfer's Prognostic Rating Scale used with Raven's Progressive Matrices in play therapy prognosis. *Journal of Projective Techniques*, 1953, 17, 320-326.
- Kirkner, F. J., Wisham, W. W., & Giedt, F. H. A report on the validity of the Rorschach Prognostic Rating Scale. *Journal of Projective Techniques*, 1953, 17, 465-470.
- Meehl, P. E. *Psychodiagnosis: Selected papers*. Minneapolis: University of Minnesota Press, 1973.
- Meehl, P. E., & Rosen, A. Antecedent probability and the efficiency of psychometric signs, patterns or cutting scores. *Psychological Bulletin*, 1955, 52, 194-216.
- Mindess, H. Predicting patient's responses to psychotherapy: A preliminary study designed to investigate the validity of the Rorschach Prognostic Rating Scale. *Journal of Projective Techniques*, 1953, 17, 327-334.
- Newmark, C. S., Finkelstein, M., & Frerking, R. A. Comparison of the predictive validity of two measures of psychotherapy prognosis. *Journal of Personality Assessment*, 1974, 38, 144-149.
- Newmark, C. S., Hetzel, W., Walker, L., Holstein, S., & Finkelstein, M. Predictive validity of the Rorschach Prognostic Rating Scale with behavior modification techniques. *Journal of Clinical Psychology*, 1973, 29, 246-248.
- Phillips, L. Case history data and prognosis in schizophrenia. *Journal of Nervous and Mental Disease*, 1953, 117, 515-525.
- Seidel, C. The relationship between Klopfer's Rorschach Prognostic Rating Scale and Phillip's Case History Prognostic Rating Scale. *Journal of Consulting and Clinical Psychology*, 1960, 24, 46-49.
- Sheehan, J., Frederick, C., Rosevear, W., & Spiegelman, M. A validity study of the Rorschach Prognostic Rating Scale. *Journal of Projective Techniques*, 1954, 18, 233-239.
- Whiteley, J. M., & Blaine, G. B., Jr. Rorschach in relation to outcome in psychotherapy with college students. *Journal of Consulting and Clinical Psychology*, 1967, 31, 595.

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## The Dream Incident Technique as a Measure of Unresolved Problems

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*Summary:* The Dream Incident Technique is a psychometric technique that uses dream associations as its basic data. The scales of the DIT are believed to provide information about unresolved problems on a level below that of full conscious awareness. The paper discusses factor analyses of the Technique, data concerning its reliability and studies which offer some support for the validity of the Technique.

The preponderance of studies on dreams have been concerned with the manifest content of the dream rather than the latent content. Attempts to objectively delve beneath the surface of dreams to study the latent meaning have been rare. Some exceptions are Sheppard and Karon's (1964) application of content analysis to dream associations and the keyword substitution procedures developed by Tokar and his co-workers (Tokar, Brunse, Castelnuovo-Tedesco, & Steffire, 1973). The relative lack of attention to the latent dream thoughts seems puzzling in view of Freud's belief that the manifest dream content is of minor importance when compared to the latent content. The manifest content was viewed as only the starting point in dream analysis in which free association was used as the method of uncovering the thoughts underlying the dream (Freud, 1955).

One reason for the lack of studies into latent dream content is that while the free association procedure is clinically useful, it is unwieldy as an objective diagnostic tool or as a research instrument. To utilize dream association more objectively in the tradition of scientific measurement, it seems necessary to impose limits on the procedure. This means a trade-off, giving up some potential clinical power in return for objective, quantified answers.

The Dream Incident Technique (Robbins, 1966) is a dream association procedure offered as one solution to the above problem. Following Freud, the technique begins with a dream report. The report may be obtained in a sleep laboratory or upon morning awakening at home. Unlike Freud, the associations which follow

are limited to incidents that really happened that are suggested by the dream. Also unlike Freud, the person is asked to rate these incidents on a standardized checklist assessing what his hopes and wishes were at the time of the incident. These items sample a number of the personality needs described by Murray (1938). The scoring system developed with the aid of factor analysis yields a profile of needs or problem areas. In contrast to other tests using the Murray system, these scores are considered to be *indications of unresolved problems which are to a large extent out of everyday awareness*.

Since the initial report of the technique (Robbins, 1966), a number of studies have been carried out concerning its reliability, validity, and relationship to other psychological tests. In addition, we have revised the measurement of certain scales and developed several new broader scales. The purpose of this article will be to review some of these data.

### Procedure

#### Description of Dream Incident Technique

For a complete description of the Dream Incident Technique (DIT), see Robbins (1966). In brief, the Technique consists of three tasks.

1. Reporting a dream.
2. Thinking of incidents that happened in one's past that are suggested by the dream.
3. Rating each incident on a checklist of items.

For the first task, reporting a dream, the following instructions were used.

In the morning, as soon as you wake up, try to recall whether you dreamt during the night. If you did dream, and remember the dream, write it down immediately, as recall for dreams tends to become poorer later in the day. If you had several dreams during the night, just write down the one you remember best.

After the subject had recorded a dream, the following instructions were used to obtain incidents:

1. Read your dream over. Think about it for awhile. Then go back and read over the sentences of the dream, very slowly, one by one. Then relax, and let your mind drift freely over the dream thoughts.

2. As you think about the dream, do any incidents or events which *actually* happened to you come to mind? These could be incidents from any time in your life but it must be something you, yourself, were involved in. Participants in the incident might have included members of your family, friends, chance acquaintances, or perhaps no one other than yourself.

3. If an incident occurs to you, write it down on one of the sheets provided. Write down as many different incidents as occur to you — up to a total of seven incidents for the dream. Write each incident on a separate sheet.

4. When you have trouble thinking of incidents, try reading the dream over again. You may read the dream over as many times as you wish.

5. If 15 minutes go by and you can think of no new incidents, stop.

*Note* — Be sure to describe only *specific* events, something that happened at a given time and place.

Subjects were given short forms for describing the incidents. On these forms there was an additional note:

In your description, please include where the incident occurred, approximately when it happened, and what you and other participants were doing.

In the third task subjects attached each incident to a rating sheet. The original rating sheet contained 35 items. Examples of items were: "To feel close to someone of the opposite sex," "to be the center of attention," "to resist attempts by others to tell me what to do," and "to protect, care for." Subjects were instructed to "think about the incident you described above. If you felt any of these hopes or wishes either

before or during any part of the incident please indicate by checking "YES."

### Scoring System

Combining responses to various items yielded 12 scores. These were affection, achievement, dominance, autonomy, adventure, sex, aggression, exhibition, nurturance, play, introversion and guilt avoidance. Because subjects recalled varying numbers of incidents (1 to 7), the score used was a percentage. The denominator was the number of items sampling a problem area multiplied by the number of incidents rated. The numerator was the number of these items checked "yes" over these incidents. In the event data from two or three dreams were available, mean incident scores for the several dreams were used.

### Results

#### Description of Data Output

The dreams obtained using the procedure ranged in length from a few lines to several pages. In general, the content of the dreams seemed roughly similar to those obtained elsewhere under conditions of home dream reporting (Hall & Van de Castle, 1966). Consistent with the above report, we found very little overt sexuality in the dreams. The frequency of manifest aggression in a random sample of dreams was 30%, which is somewhat lower than the Hall and Van de Castle estimates.

Subjects differed in the number of dream incidents reported. In one sample, a mean of 4.2 incidents were reported. Some of the incidents related had a close connection to the manifest dream. For example, one subject dreamt he was in Vietnam, as a marine patrolling in the heavy bush country. There, they encountered the enemy and exchanged fire in which several people were killed. The subject reported he woke up feeling very upset. In one dream related incident, he stated:

I met an ex-marine in a bar in Iowa City about three months ago. We were sitting, drinking beer and talking about each other. He had been in Vietnam and told me of the situation. They used to send a Vietnamese soldier with a marine into the field and the Viet was to help point out the enemy if there was any question. The problem was that you



Table 1  
Intercorrelations of Dream Incident Scores ( $n = 129$ )

	Aff	Ach	Dom	Aut	Adv	Sex	Agg	Exh	Nur	Play	Inf	Glt
Aff		28	38	39	52	67	15	44	53	56	22	22
Ach			50	44	53	33	11	43	35	26	31	45
Dom				59	46	31	31	39	36	27	29	32
Aut					45	37	34	39	38	24	29	34
Adv						42	02	40	37	57	13	09
Sex							27	33	26	33	21	09
Agg								24	14	-05	32	10
Exh									32	40	29	18
Nur										24	36	49
Play											09	08
Inf												56
Glt												

couldn't be sure if the Viet working with you was a loyal Vietnamese or a Viet Cong. Many marines got wiped out in this way.

Sometimes, the connection between the manifest dream and the reported incident appeared more remote. For example, one subject had a dream in which she took a typing test for a possible job. In the dream the typing test turned out to be rather bizarre, as she was told to put a pencil in the typewriter and type on it rather than use paper. She became very nervous, and "did horribly." One of the dream related incidents had nothing to do with performance on the typewriter; rather, it concerned some of her past singing performances.

"I love to sing. When I was in junior high school, I sang several solos. While I was waiting to sing, I would not be nervous at all. But when I would start to sing I would get so nervous that I would sing horribly."

In responding to the check list, subjects almost invariably checked "yes" or "no" alternatives: The "?" option was rarely utilized.

The distribution of scores for the more passive and innocuous variables of the DIT (infavoidance, guilt avoidance, affection, play and adventure) were the scores which most approximated the normal distribution. The distributions for the variables showing a more assertive character (achievement, dominance, and autonomy) were somewhat skewed with a disproportionate number of low scores. The distributions for sex, aggression, and

exhibition were highly skewed with many zero scores. There was some tendency for males to score higher on the measure of sex tension and lower on guilt avoidance.

#### *Intercorrelations of the Primary Scales*

Using a sample of 129 undergraduate students (108 females, 21 males), intercorrelations were computed among the DIT scores. There was a clear tendency toward positive intercorrelation among the 12 scales. These correlations (See Table 1) ranged from  $-.05$  (play vs. aggression) to  $.67$  (sex vs. affection). The mean intercorrelation was  $.32$ . To search for possible higher order factors measured by the instrument, a factor analysis of the intercorrelations was undertaken (See Table 2). The rotation was orthogonal using the varimax program.

Of the six factors produced, several make sense as fusions of needs along lines conceived by Murray on theoretical grounds. These are factor 1, the fusion of sex and affection into love or eroticism and factor 6, affection and nurturance into emotional closeness. The combination of achievement, dominance, autonomy and adventure (factor 4) is suggestive of a positive — assertive or self actualizing personality. Factor 5 seems to be a pleasure oriented, good times cluster centered on social interaction. Factor 2 is highlighted by avoidance. Factor 3 has only one marker, aggression.

#### *The Development of New Scales*

It seems worthwhile to try to incorporate

some of these broader concepts into the scoring system of the DII. To develop these scales, a revised form of the incident rating sheet was drawn up which included the 35 original items and 42 new ones. Most of the new items were specifically written to sample the concepts of love, emotional closeness, self-actualization and sociality. In addition, some new items were included in an attempt to improve the measurement of the original primary scales for aggression, nurturance, achievement and guilt avoidance. Ratings on the revised incident form were obtained using either a dream related incident or a recent incident on a sample of 112 undergraduate students. (57% of the subjects were males). A factor analysis of these ratings yielded factors which seem to approximate the predicted eroticism and positive-assertive or self-actualization scales. The factor analysis also defined the revised aggression scale.

#### Eroticism

Loading	Content
.77	To kiss, To pet — To make love.
.75	To feel close to someone of the opposite sex.
.75	To experience sexual pleasure.
.73	To receive love or affection.
.73	To express my love to another.
.73	To be with someone special.
.71	To hold someone in my arms.

#### Self Actualization

Loading	Content
.65	To excel; To attain a high standard.
.64	To accomplish, strive, achieve.
.59	To do something unusual and exciting.
.58	To do something creative.
.53	To attract attention; To be noticed, talked about.
.52	To be daring, to seek adventure.
.50	To do something better than other people.
.46	To get into the limelight.
.46	To be independent; to be free to do things my own way.
.45	To have a good time; to enjoy myself.
.45	To go to new places; to do new things.
.41	To assert myself.
.40	To find amusement; to have fun.

.38	To be the center of attention.
.38	To be self-assured and confident.
.37	To make my own choices, free from influence.

#### Aggression

Loading	Content
.69	To express a feeling of utter frustration.
.68	To let someone know that I was annoyed with them.
.67	To express anger; to tell someone off.
.65	To physically attack... to hit, to strike, to slap.
.62	To have it out with someone.
.57	To be a little devilish; a bit nasty.
.57	To injure and inflict pain; to hurt someone.

In a follow-up exploration, we selected 85 cases from our sample who had reported only dream related incidents. These cases were factor analyzed separately, again using the varimax procedure. Two of the factors extracted looked very much like the predicted emotional closeness and sociality factors. Some typical items loading above .40 on emotional closeness were "To take care of someone," "To be with someone special," "To be very understanding," "To be a good listener," "To hold someone in my arms," "To give comfort, sympathy," and "To find emotional support in another person." Some typical items loading above .50 on the pleasure-seeking-sociality factor were "To be amused, entertained," "To do something unusual and exciting," "To share an experience with a friend," "To laugh, to feel happy," and "To enjoy the company of others."

Besides shedding some light on the hypothesized broader factors, the follow-up analysis enabled us to add some new items to the primary scales measuring achievement, nurturance and guilt avoidance.<sup>1</sup>

#### Reliability

Estimates of the internal consistency of the new broader scales and the revised primary scales were made using data obtained with the revised incident rating form. A preliminary analysis was made to check

<sup>1</sup> A copy of the form for rating dream related incidents with instructions for scoring the revised primary scales, and the broader scales of the DII may be obtained by writing the first author.

Table 2  
Factor Analysis of the Original DIT Scales

DIT Scale	Factor					
	1	2	3	4	5	6
Affection	.67	.06	.05	.15	.41	.48
Achievement	.19	.48	.18	.70	.21	.18
Dominance	.06	.11	.24	.77	.18	.21
Autonomy	.16	.10	.29	.73	.09	.27
Adventure	.37	.03	.22	.59	.47	.11
Sex	.91	.08	.18	.20	.13	.02
Aggression	.14	.11	.89	.17	.00	.00
Exhibition	.04	.22	.29	.26	.78	.00
Nurturance	.14	.35	.00	.25	.15	.78
Play	.30	.05	.20	.13	.76	.20
Infavoidance	.10	.82	.29	.03	.15	.07
Guilt Avoidance	.02	.82	.07	.24	.06	.32

Note. Loadings over .40 are italicized,  $n = 129$ .

Table 3  
Split Half Reliability Estimates for  
New and Revised Scales Based on  
Summated Scores for Four Incidents ( $n = 66$ )

Scale	Split-Half Correlations
Guilt avoidance	.88
Nurturance	.94
Achievement	.88
Aggression	.75
Procticism	.94
Self-actualization	.90
Emotional closeness	.91
Pleasure-seeking	.89

for possible sex differences on these scales before male and female samples were combined. No significant sex differences were uncovered. Looking through our sample of cases, we selected 66 cases who reported and rated four incidents. Summating over each item for the four incidents (1 = checked yes, 0 = checked No. or ?) yielded a score of 0 to 4 for each item. Split half (odd-even) correlations were computed for the new scales and revised primary scales. These data corrected by the Spearman-Brown prophecy formulae are given in Table 3. The reliability estimates are generally in the high range (about .90). It should be noted, however, that since these summated scores included some data used in the earlier factor analyses, these estimates are only approximate and some shrinkage would be expected upon cross validation.

Nevertheless, it seems reasonable to assume a satisfactory measure of internal consistency for the scales.

#### Stability of Scores Over Time

Data assessing the stability of DIT scores over time were obtained using the original version of the instrument. Two dream reports were obtained on 112 subjects over a period of approximately six weeks. DIT ratings were obtained at the time each dream was reported. For all 12 DIT scores, correlations between scores at Time 1 and Time 2 were significant, and were generally in the moderate range (See Table 4). This was true in spite of the fact that the manifest content of the two

Table 4  
Correlations Between the Original  
DIT Scores for Two Dreams ( $n = 112$ )

DIT Score	$r$
Affection	.31
Achievement	.47
Dominance	.56
Autonomy	.60
Adventure	.43
Sex	.37
Aggression	.39
Exhibition	.62
Nurturance	.37
Play	.20
Infavoidance	.53
Guilt avoidance	.55

dreams could be quite dissimilar. On a subgroup ( $n = 39$ ), a third dream was available. In general, the more remote the dreams were apart in time, the smaller the correlations were between dream incident scores.

### *Validity Studies*

Four studies were carried out in which predictions were made relating DIT scales to psychological and behavioral data. In the first study, a prediction was made concerning the DIT achievement scale. It was hypothesized (Robbins, 1966) that if the DIT achievement scale was in fact measuring unresolved problems relating to achievement, individuals with high achievement needs who are not gratifying these needs would show higher DIT scores. To test this hypothesis, a group of college students were selected out of a sample at the University of California at Berkeley. The students selected met two criteria: a) They scored above the median on the EPPS achievement scale, and b) their grade averages were in the lower half of the sample. It was predicted that these subjects with apparent discrepancies between need and attainment would score higher on the DIT achievement scale than the remaining subjects in the sample. The prediction was confirmed. The experiment was repeated on George Washington University students on two occasions. The hypothesis was confirmed on one occasion, but failed to reach statistical significance on the other. Thus the hypothesis was supported in two of three samples. Some parallel analyses for deprivation of other needs such as sex and aggression did not show the same pattern as DIT achievement.

The second prediction (Robbins & Tanck, 1970) was made for the DIT "defensiveness index." The index was based on the assumption that persons rating their incidents without *any* sex or aggression would tend to be more constrained about looking into themselves. It was expected that such individuals would be less open, more defensive, and would tend to score high on personality measures of repression. Specifically, it was predicted that subjects who did not recognize sex or aggressive wishes in their incidents would score

lower on Byrne's Repression-Sensitization scale (i.e., toward the repression end of the scale) than those checking sex or aggression items. In carrying out the study, we made the DIT criterion stringent by selecting from a group of undergraduates, those students who did not check any sex or aggression items for incidents derived from two dreams. These individuals were compared with their fellow-students who did check DIT sex or aggression items in terms of their R-S scores. The prediction was confirmed. A second prediction that there would be a positive correlation between the number of incidents reported by the subjects and their R-S scores was also confirmed.

The third study (Tanck & Robbins, 1970) investigated the relationship of the DIT scores and a measure that was assumed to be outside of voluntary control, the pupillary response. The study followed the discoveries of Hess and Polt (1960) and other researchers that subjects would show pupillary dilation to provocative stimuli. For example, male subjects would evidence pupillary dilation while viewing photographs of nude females. Drawing on these studies, it was hypothesized that subjects scoring high on a given DIT scale would show greater pupillary dilation to content related to the scale than subjects not scoring high on the scale. For example, it was expected that subjects with high DIT achievement scores would dilate more to achievement stimuli than subjects with low DIT achievement scores. The hypothesis was tested for six DIT scales. These were achievement, sex, nurturance, affiliation, aggression, and dominance.

The stimuli used were video taped scenes of ten seconds length. The scenes were filmed using actors from the George Washington University Dramatics Department. The scenes portrayed behavior in the various areas studied. For example, an achievement scene showed a woman dressed in cap and gown receiving a diploma. An aggressive scene showed a student fingering a gun. A sexual scene showed an apparently nude couple in bed, embracing. A nurturant scene depicted a mother cuddling a small child.

While the subjects viewed these scenes



on a video monitor, their pupils were photographed. Following this presentation, subjects were asked to rate still photos of each scene as to "how stimulated they had felt" while viewing the scene. No correlation was found over individuals as to the amount of pupillary dilation that actually took place and the subjects' post experimental ratings of felt stimulation. As we expected, pupillary change appeared to take place without awareness.

The hypotheses regarding the DIT were confirmed for the sex and nurturant scales and marginally for achievement. Individuals with DIT scores indicating unresolved problems in these three areas evidenced pupillary dilations to the predicted video scenes. In contrast, a strong negative correlation was found between DIT aggression and the pupillary response to the aggressive scenes. It looked as if these individuals were somehow turning off the stimulus.

We included in the experiment a parallel analysis using the Edward's PPS scores as predictors. In no case were the appropriate PPS scores significantly related to the pupillary changes. What we did find was a tendency for the PPS scores to correlate positively with the post viewing ratings of felt stimulation. Thus, it appeared that the two measures which were presumed to have a basis in unconscious activities or processes (the DIT and pupillary reactions) showed some relationship while the two measures which involved only self-perceptions tended to correlate.

The fourth study concerned physical symptoms. It has long been recognized (e.g., Alexander, 1950) that psychological tension may manifest itself in physical symptomatology. This seems particularly likely among individuals who cannot utilize anxiety adaptively to cope with problems but tend to become ineffective. Given this rationale, we predicted that persons with a combination of high DIT scores and low ego strength would be prone to report physical symptoms. The hypothesis was tested on a sample of college students (Robbins, Tanck, and Meyersburg, 1972). From the range of DIT scales, three were selected for testing the hypothesis: achievement, autonomy, and sex.

These were areas that we felt to be salient areas of tension for college age subjects. The measure of ego strength used was Baron's scale developed from items of the MMPI. Standardized medical histories were obtained in interviews conducted by senior medical students. It was found for each of the three areas — achievement, autonomy, and sex — students with high DIT scores and low ego strength reported significantly larger numbers of physical symptoms than the other students in the sample. Ego strength, by itself, did not relate significantly to the number of physical symptoms reported. Scores for DIT autonomy and sex were significantly related to the number of symptoms reported while DIT achievement was not.

In summary, four different types of validity studies were carried out. The criteria were quite different including an objective measure of achievement, a psychological test, a physiological measure, and report of physical symptoms. A substantial number of the predictions were confirmed.

### *Discussion*

The Dream Incident Technique is an experiment. The procedure represents an attempt to introduce objectivity into a clinical method basic to psychoanalysis, free association. The DIT cannot be considered a fully developed psychometric instrument with norms based on carefully defined samples and firm estimates of reliability, though our studies suggest that such a goal is attainable. It is certainly not the most convenient of techniques to use; one has to wait until the subject reports a dream. The investigator needing immediate data would look for something else. The only advantage the Dream Incident Technique offers is a possible look at what is bothering the subject on levels below that of full conscious awareness. Depending on one's point of view in psychology, the value of such a technique could be very little or very great.

As a psychometric device, the DIT can be fully self-instructional. No trained examiner is needed to administer it. It may be scored with complete objectivity. Moreover, most students find using the procedure an interesting experience.

The DIT appears subject to the usual psychometric errors of response set and social desirability. Some response set seems likely in view of the fact the subject faces a repeated task of rating incidents using the same item format. The skewed appearance of the distributions for sex and aggression scores (many low scores) would seem to reflect the influence of social desirability in responding to the items.

In regard to reliability, our tentative evidence suggests a satisfactory degree of internal consistency in the scales. The stability of scores over time, however, is in the moderate rather than high range. This seems understandable in view of the fact that widely different dreams may serve as the beginning step in using the technique. Also, what is bothering the person will shift from time to time depending on external events. For example, a student might be expected to experience more tensions relating to achievement before exams than at other times of the year.

The validity studies seem encouraging with a substantial number of the predictions made being confirmed. Essentially, the studies were predicated on the supposition that the DIT scales represent unresolved problem areas, and as such had a certain driving force or tension quality. These tensions manifested themselves in one study in terms of physical symptoms, in another in the discrepancy between need and attainment, and in a third in unconscious reactions to predicted stimuli. The latter study seems particularly important as the findings seem consistent with the basic assumption underlying the instrument — that it provides a glimpse at sub-surface problems.

While these validity studies suggest that the DIT scores have motivational properties, they are probably not of the same order as direct measures of drive or anxiety. The DIT has shown only modest relationships with self-report measures of anxiety. Nor do high DIT scores imply a readiness to respond in overt behavior. A high DIT score for achievement does not necessarily indicate that a person will attain high grades. It may mean he will feel troubled on some level when he encounters achievement stimuli. It seems likely that the relationship between DIT

scores and behavior is complex. Experimental manipulations designed to arouse tension in areas assessed by the DIT might offer an effective way to explore this problem.

In developing the revised incident rating form, we used ratings from both dream-related incidents and recent incidents. The procedure seemed reasonable in view of our experience in developing the earlier 35-item form of the rating sheet. In this effort, we ran separate factor analyses for the two types of incidents and found that similar patterns of needs emerged, although there was somewhat more fusion of these needs using the dream-related incidents (e.g., fusion of sex and affection items). It might be interesting to use the incident rating form for the analysis of "critical" incidents as well as dream suggested incidents. The former could provide a need profile for events consciously chosen as important while the latter with its association to dream content has an ostensible link with what is unconscious. The two types of scores could provide an interesting contrast and may have different types of correlates.

As a research instrument, the DIT may be of value in studies where theory indicates the possible action of unconscious forces, or where we suspect the existence of a chronic state of tension. An example of such research would be our findings relating DIT scales and symptoms of psychosomatic illness.

As a clinical instrument, the DIT has interesting possibilities. Dreams and associations are important sources of data in psychoanalytic oriented therapy. The DIT permits the patient to produce such data in a systematic form outside the therapy hour. The therapist could use this material as a source of further inquiry during therapy. More extensive norms would permit the therapist to assess areas of relatively high and relatively low tension that are suggested by the patient's dreams.

#### References

- Alexander, F. *Psychosomatic medicine*. New York: Norton, 1950.
- Freud, S. *The interpretation of dreams*. New York: Basic Books, 1955.

- Hall, C. S., & Van de Castle, R. L. *The content analysis of dreams*. New York: Appleton-Century-Crofts, 1966.
- Hess, E. H., & Polt, J. M. Pupil size as related to interest value of visual stimuli. *Science*, 1960, 349-350.
- Murray, H. A. *Explorations in personality*. New York: Oxford University Press, 1938.
- Robbins, P. R. An approach to measuring psychological tensions by means of dream associations. *Psychological Reports*, 1966, 18, 959-971.
- Robbins, P. R., & Tanck, R. H. The Repression-Sensitization scale, dreams, and dream associations. *Journal of Clinical Psychology*, 1970, 26, 219-221.
- Robbins, P. R., Tanck, R. H., & Meyersburg, H. A. A study of three psychosomatic hypotheses. *Journal of Psychosomatic Research*, 1972, 16, 93-97.
- Sheppard, E., & Karon, B. Systematic studies of dreams: Relationship between the manifest dream and associations to the dream elements. *Comprehensive Psychiatry*, 1964, 5, 335-343.
- Tanck, R. H., & Robbins, P. R. Pupillary reactions to sexual, aggressive and other stimuli as a function of personality. *Journal of Projective Techniques & Personality Assessment*, 1970, 34, 277-282.
- Tokar, J. T., Brunse, A. J., Castelnuovo-Tedesco, P., & Steffire, V. J. An objective method of dream analysis. *Psychoanalytic Quarterly*, 1973, 42, 563-578.
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## Experimenter Effects on Responses to Double-Entendre Words

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**Summary:** The present study examines the possibility that experimenters may contribute to a subject's desire to defend against sexual expression by investigating the interaction between sex of experimenter and sex of subject on response to double-entendre words. The results indicated that subjects are more likely to provide nonsexual words when tested by an opposite-sex experimenter, although this effect is significant only for male subjects, and female experimenters, in general, elicit longer latencies to double-entendre words. These findings were discussed in terms of the dynamics operating within the type of experimental settings used to study human sexual behavior. Implications of these findings for personality assessment are also addressed.

Byrne (1977) has recently described sex research as being in a process of evolution. He believes that it started almost exclusively with either comparative, cross-cultural or clinical case studies, but it can now boast of incorporating almost every area of psychology. This current breadth of interest is assumed to have resulted from concerns over the consequences of exposure to pornography, interest in contraceptive issues and societal changes which are tending to legitimize this area of research (Byrne, 1977).

Although it is certain that interest in sex research is flourishing, it is not certain whether psychologists are giving adequate attention to the methodological implications of using laboratory analogues of sexual situations especially as it involves personality assessment. That is, it must be stressed that regardless of societal or professional acceptance of sex research, human sexual behavior still exists as a very private, emotionally charged behavior which is influenced, to some degree, by situational factors. Temperature, lighting, degree of privacy, comfort, space and time of day are a few of the environmental variables which are likely to contribute to the actualizing of sexual behavior as well as influencing one's ability to disclose one's sexual behavior or attitudes. Yet most, if not all, of these situational factors are not considered in the

current research on human sexual behavior.

While it may be easy to document a void in the research literature, it is considerably more difficult to ascertain the significance of such an omission. That is, do situational parameters inherent in our laboratory settings represent a trifle nuisance or do they represent a substantive area of concern? Certainly Rotter's (1960) work would suggest that they are of paramount influence in all types of testing situations. Furthermore, in the specific case of sex research there are findings which imply that there is at least one situational variable (experimenters) which may be strongly influencing the results by inadvertently increasing or decreasing sexual interest and arousal (Abramson, Goldberg, Mosher, Abramson, & Gottesdiener, 1975; Chapman, Chapman, & Brelje, 1969). This effect is not surprising given that an experimenter is likely to influence a subject's experience of privacy, comfort and personal space, all of which are related to sexual expression. And even though experimenters are only one of many possible reactive influences resulting from our laboratory conditions, they are clearly an integral part of our testing procedures and, as such, warrant serious attention. Furthermore, by increasing our knowledge about variables which either facilitate or inhibit sexual expression, we increase what we know about human sexual behavior.

Although there have been several studies which have demonstrated that an experimenter can significantly affect sex-

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ual arousal, there is very little research which examines the possibility that experimenters may also contribute to a subject's desire to defend against sexual expression. Research investigating the effects of experimenters on sexual phenomena related to perceptual defense (Janda, Witt, & Manahan, 1976) has found that the approachability of a female examiner can have a significant effect on associative sexual responses. However, the work specific to sexual phenomenon related to perceptual defense (Galbraith & Mosher, 1968; Galbraith, Hahn, & Liberman, 1968; Galbraith & Sturke, 1974; Janda et al., 1976) has been limited in its generalizability because both sexes have not been represented as subjects and experimenters in the same study. The present study addresses itself to this issue by investigating the interaction between sex of experimenter and sex of subject on responses to double-entendre words. It is hypothesized that subjects will give fewer sexual responses to double-entendre words and will have greater latencies to these words, when tested by an opposite-sex experimenter. This hypothesis is based on the assumption that opposite-sex experimenters are likely to elicit more nonsexual responses because they will create a more uncomfortable or socially restrictive environment for opposite-sexed subjects. In addition, it is also proposed that female experimenters will have a different stimulus value from male experimenters. That is, female experimenters, in general, will be perceived as less likely to endorse the use of double-entendre words, and consequently, will elicit fewer sexual responses and longer latencies.

The present investigation will also examine the possibility of differences in susceptibility to experimenter effects as a function of a subject's sex guilt (Mosher, 1966). The relevance of sex guilt has already been demonstrated in the Janda et al. study which showed that the influence of approachability of a female experimenter varied as a function of a male's predisposition to sex guilt.

#### Method

##### Subjects

The subjects were 40 undergraduate

males and 40 undergraduate females enrolled in introductory psychology at the University of Connecticut who chose to participate in a study of sexual attitudes and behavior as part of an introductory psychology course requirement.

##### Experimenters

A recent investigation (Abramson et al., 1975) has suggested that the sex, status, and style of interaction of an experimenter may produce either a restraining or permissive social context, which in turn can account for a significant portion of the variance of a subject's responses to sexual material. To control for the possibility of confounding the data with the stimulus value of a particular experimenter, Rosenthal (1966) suggests employing a large sample of experimenters and then randomly assigning these experimenters to the different conditions. He indicates that increasing the experimenter sample size increases the generalizability of the data by minimizing the effect of the individual characteristics of each experimenter and that the random assignment of experimenters to different conditions controls for the potential problem of self-selection for correlated attributes (Rosenthal, 1966). Therefore, the present study employed six experimenters, three of whom were male and three who were female. These experimenters ranged in age and status from lecturer (PhD candidate) to sophomore undergraduate.

##### Measures

**Sex guilt.** The Sex Guilt subscale of the Mosher Forced-Choice Guilt Inventory (1966), consisting of 27 forced-choice items that have a corrected split-half reliability of .97, was used. An example of an item is:

As a child, sex play:

1. was a big taboo and I was deathly afraid of it.
2. was common without guilt feelings.

**Word Association Test.** The word association test developed by Galbraith and Mosher (1968) is composed of 50 stimulus words. Thirty of the stimulus words were double-entendre words which, in slang usage, have a high degree of sex-

ual implication. The 30 "sexual" words, with the numbers corresponding to their serial position in the word association test, were as follows: (3) SNATCH, (5) RUB—BER, (7) BROAD, (9) BUST, (11) NUTS, (12) PARK, (13) PRICK, (15) MAKE, (17) CRACK, (18) SCREW, (21) BLOW, (23) COCK, (24) MOUNT, (26) QUEER, (28) COME, (29) TAIL, (32) PIECE, (33) PET, (34) HUMP, (35) TOOL, (36) SUCK, (37) BANG, (38) PERIOD, (40) ASS, (42) BALLS, (43) CHERRY, (45) JUGS, (47) PUSSY, (48) BOX, (50) LAY.

The word association test also contained 20 nonsexual words which were chosen because of their apparent lack of any sexual connotations. The 20 words, and the numbers indicating their serial placement in the word association test were as follows: (1) LIGHT, (2) CHAIR, (4) TO—BACCO, (6) TABLE, (8) HEALTH, (10) OCEAN, (14) SALT, (16) STREET, (19) BITTER, (20) CABBAGE, (22) CARPET, (25) LAMP, (27) SPIDER, (30) BUTTERFLY, (31) SOLDIER, (39) STOVE, (41) CITY, (44) RIVER, (46) EAGLE, (49) SOUR.

### Procedure

Subjects were initially tested in small same-sex groups by two randomly assigned experimenters. During this period, subjects received several questionnaires, one of which was the Mosher sex-guilt scale. When finished, subjects were given a reminder slip telling them when to return for the second part of the experiment.

During the second phase of this experiment, subjects were tested individually by randomly assigned experimenters who administered the Galbraith and Mosher (1968) Word Association Test. The Word Association Test was administered in the individual, oral, discrete association manner. As subjects gave their responses, they were recorded. Responses to the "sexual words" were scored according to a set of scoring principles constructed by Galbraith and Mosher (1968). Each response was given a score of 0, 1, or 2. The score of 0 was given to all asexual responses as well as to all "symbolic" sexual responses. In order for a response to escape a score of 0, it has to be

unequivocally sexual in nature. When responses were unambiguously sexual, a weight of 1 or 2 was used—the latter being reserved for responses flagrantly sexual in nature. In general, the score of 2 was given to responses pertaining to sexual acts, nouns referring to sexual deviancy, and responses referring to specific sexual, anatomical features. All responses which escaped a score of 0 and failed to meet the prerequisites for a weight of 2 were given a score of 1. The *sexual response score* was created by summing the scores for responses to all of the "sexual words." Interrater reliability was checked by independently scoring 30 tests selected at random. The reliability coefficient was .97. Furthermore, a *total sexual response latency* score was created by summing the latencies of the responses to all of the "sexual words."

### Debriefing

During this one-hour session, which was conducted one week following the testing, subjects were informed of the exact nature of the experiment. The methodological issue was explained, the measures described, the procedures explained, the results presented, and references of all pertinent studies provided. All questions were answered (Abramson, 1977).

### Results

The data were analyzed by  $2 \times 2 \times 2$  analyses of variance, with sex of subject, sex of experimenter, and sex of guilt (high versus low, median split) being the independent factors. Separate analyses were run for the *Sexual Response Score* and the *Total Sexual Response Latency*.

A significant main effect emerged for sex of subject on the *Sexual Response Score*. Males gave considerably more sexual responses (Men,  $M = 24.09$ ;  $SD = 11.56$ ; Women,  $M = 8.02$ ;  $SD = 6.64$ ) to the double-entendre words than females ( $F = 34.31$ ;  $df = 1/79$ ,  $p < .001$ ). Two significant interactions were also discovered for the *Sexual Response Score*. A sex of subject by sex of experimenter interaction indicated that males who had a male experimenter gave significantly more sexual responses to the double-entendre words than the other three conditions

(Male Ss, Male E,  $M = 28.57$ ;  $SD = 12.30$ ; Male Ss, Female E,  $M = 19.61$ ;  $SD = 10.82$ ; Female Ss, Female E,  $M = 8.65$ ,  $SD = 6.25$ ; Female Ss, Male E,  $M = 7.39$ ,  $SD = 7.03$ ;  $F = 3.50$ ,  $df = 1/79$ ,  $p < 0.5$ ). A sex of subject by sex guilt interaction demonstrated that while it was females low in sex guilt who gave more sexual responses than females high in sex guilt, it was males who were high in sex guilt who gave more sexual responses than males low in sex guilt (Male, HG,  $M = 27.61$ ,  $SD = 13.47$ ; Male, LG,  $M = 20.57$ ,  $SD = 9.65$ ; Female, HG,  $M = 4.98$ ,  $SD = 4.19$ ; Female, LG,  $M = 11.05$ ,  $SD = 9.09$ ;  $F = 5.70$ ,  $df = 1/79$ ,  $p < .02$ ).

For the *Total Sexual Response latency*, only one significant effect emerged. Substantially longer latencies were given to female experimenters ( $M = 80.27$ ;  $SD = 30.88$ ) than to male experimenters ( $M = 59.19$ ,  $SD = 18.97$ ) ( $F = 4.23$ ,  $df = 1/79$ ,  $p < .04$ ).

### Discussion

The results obtained in this experiment are fairly consistent with our predictions about the relative influence of experimenters on the tendency to defend against sexual expression. Evidence is provided which suggests that subjects are more likely to provide nonsexual words when tested by an opposite-sex experimenter although this effect is significant only for male subjects, and female experimenters, in general, elicit longer latencies to double-entendre words. These findings are not surprising if one considers the particular situation in which the responses occurred. The subject is tested in a rather private setting while in close proximity to an experimenter. Contact is fairly direct, given that they face each other across a table, and there is very little ambiguity about what the task requires. That is, the subject is aware that he or she must make a response following the word given by the experimenter. However, whereas the procedure is fairly straightforward, the double-entendre words are likely to introduce some uncertainty concerning the appropriateness of a particular association. That is, should one provide a sexual or a neutral response to a double-entendre word in

the presence of a stranger? Although the tendency to respond in a sexual manner in this experimental setting may be determined by a number of intrapsychic factors (Galbraith & Sturke, 1974), subjects may also attempt to minimize uncertainty concerning the appropriateness of a response by making some assumptions about the experimenter. In this case, the longer latencies in the presence of a female experimenter may have resulted from subjects' uncertainty about whether she was really aware of the sexual connotations of the double-entendre words. Of course it may also be that subjects were hesitating in order to judge her reactions, or were just more surprised to hear a sexual slang word from a woman. As far as the opposite-sex experimenter effect for the sexual response score is concerned, it appears that male subjects will inhibit sexual expression, within a novel experimental setting, when in the presence of a member of the opposite sex. The reason that this effect is not as pronounced for female subjects is that regardless of the sex of the experimenter, female subjects tend to inhibit their expression of sexual words.

Although the previous finding (Galbraith & Mosher, 1968) that high sex guilt individuals give fewer sexual associations to double-entendre words was upheld for female subjects, the reverse effect emerged for male subjects. It was males who were high in sex guilt who responded with the greatest number of sexual associations. Whereas this finding may be contrary to expectations, several plausible interpretations can be offered to account for this result. First, distribution tests (McNemar, 1955) indicated that while the sex guilt scores of female subjects were normally distributed, the sex guilt scores of male subjects were significantly skewed ( $-0.72$ ,  $p < .05$ ) in a positive direction. Therefore high sex guilt males created by the median split in the present investigation may have had guilt scores similar to low sex guilt males of other studies. This, of course, is just a guess, given that there are not data available to substantiate that the other studies did indeed have normal distributions of guilt scores. It may also be the case that low sex guilt males are less emotion-



ally affected by the sexual connotations of double-entendre words, and as such, feel no social pressure to respond with sexual associations. The other alternative is that high sex guilt males may feel pressured by society's increasing openness about sexuality and respond in an over-determined manner. However, in the case of either interpretation, it still must be stressed that this is a significant reversal which warrants serious reconsideration.

There are several implications of the present study. The foremost is that researchers must be aware of the strength of situational factors inherent in their laboratory investigations when assessing personality dynamics associated with human sexual behavior, a concern which is meant to be carried beyond experimenter effects. Secondly, although the present research demonstrated that the sex of an experimenter may influence sexual expression, it is not yet clear whether this effect is due to a tendency to inhibit responding or a tendency to defend against recognition. Future research will have to examine this distinction. Finally, the type of experimenter effect discovered in this investigation is a fairly easy one to control for. Researchers need only to randomly assign male and female experimenters to all conditions.

Just as the present investigation has brought to light one significant source of situational variability, so future research must attempt to specify other sources of influence. For, in order to implement precautions necessary to control for such effects, researchers must first document whatever situational effects exist. That is, only in this way will we be able to know and take into account the dimensions of the situation when devising our testing procedures (Rotter, 1960).

#### References

- Abramson, P. R. Ethical requirements for research on human sexual behavior: From the perspective of participating subjects. *Journal of Social Issues*, 1977, 33, 184-192.

- Abramson, P. R., Goldberg, P. A., Mosher, D. L., Abramson, L. M., & Gottesdiener, M. Experimenter effects on responses to explicitly sexual stimuli. *Journal of Research in Personality*, 1975, 9, 136-146.
- Byrne, D. Social psychology and the study of sexual behavior. *Personality and Social Psychology Bulletin*, 1977, 3, 3-30.
- Chapman, L. J., Chapman, J. P., & Brejle, T. Influence of the experimenter on pupillary dilation to sexually provocative pictures. *Journal of Abnormal Psychology*, 1969, 74, 396-400.
- Galbraith, G. G., Hahn, K., & Liberman, H. Personality correlates of free associative sex responses to double-entendre words. *Journal of Consulting and Clinical Psychology*, 1968, 32, 193-197.
- Galbraith, G. G., & Mosher, D. L. Associative sexual responses in relation to sexual arousal, guilt, and external approval contingencies. *Journal of Personality and Social Psychology*, 1968, 10, 142-147.
- Galbraith, G. G., & Sturke, R. W. Effects of stimulus sexuality, order of presentation, and sex-guilt on free associative latencies. *Journal of Consulting and Clinical Psychology*, 1974, 42, 828-832.
- Janda, L. H., Witt, C. G., & Manahan, C. The effects of guilt and approachability of examiner upon associative sexual responses. *Journal of Consulting and Clinical Psychology*, 1976, 44, 986-990.
- McNemar, Q. *Psychological statistics*. New York: Wiley, 1955.
- Mosher, D. L. The development and multitrait-multimethod matrix analysis of three measures of three aspects of guilt. *Journal of Consulting Psychology*, 1966, 30, 25-29.
- Rosenthal, R. *Experimenter effects in behavioral research*. New York: Appleton-Century-Crofts, 1966.
- Rotter, J. B. Some implications of a social learning theory for the prediction of goal directed behavior from testing procedures. *Psychological Review*, 1960, 67, 301-316.

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## Differential Effects of Ethnic Membership, Sex, and Occupation on the California Psychological Inventory

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**Summary**—This study investigated the effects of race, sex, and occupation on college students' responses to the California Psychological Inventory. Analyses of variance of the standard CPI scales indicated numerous race, sex, and race X sex effects. A comparison of the results of factor analyses of the responses of black and white subjects (within each sex) indicated a similarity in factor structure between the two female groups, but not for the two male groups. These findings suggested that, due to these major differences in scale means and factor structure, care be taken in interpreting scores from the CPI when they are obtained from nonwhite populations.

Personality possesses, it is thought, a relatively stable form of organization called its structure (Baughman, 1972). The study of personality structure deals with the description of personality, its organization, and the measurement of its components (Holtzman, 1965).

Concern with personality measures has historically evoked considerable debate regarding personality structure and this concern has particular significance when applied to the study of personality differences as a function of differing racial, cultural, or socioeconomic factors. In recent years, there has been an increasing interest in the study of the personality of minority group members, especially following the era of turmoil among black citizens during the past decade or two. Although few investigators have studied the personality structure of minorities, differences in personality structure of blacks versus whites, if present, is an important issue and investigators such as Gynther (1972), McDonald and Gynther (1962, 1963) and Harrison and Kass (1967) have studied this problem.

Earlier work dealing with black and white differences utilized projective techniques. Invariably, differences were found to exist (Sicha, 1939; Kardiner & Ovesey, 1951). Wrightsman (1972) has suggested that these earlier studies indicate that blacks tended to be more pathological than whites. However, Gynther (1972), in his review of the literature on black and white MMPI performance, suggests

that (a) there are MMPI differences associated with differences in cultural background; (b) these differences most frequently appear on Scales 8 and 9, which are members of the psychotic triad; (c) specific item analyses disclose even greater differences associated with subcultural experiences than do scale scores or configurational analysis; and (d) the degree of MMPI difference between blacks and whites appears to be affected by such variables as education, residence, and cultural separation. Gynther postulated several possibilities that may account for the striking differences noted above: (a) blacks are more maladjusted, more disturbed, more inclined to fantasy and daydreaming than whites; (b) blacks have different values, interests, and expectations than whites reflecting difference in culture; (c) differences are a function of scale composition; (d) differences in responding may relate to the social desirability of items; and (e) key words or phrases may have different connotative meanings to blacks and whites and hence may arouse different responses. Gynther concludes that the evidence indicates that differences between blacks and whites are associated with differences in cultural background, but that the type of differences found might lead the unwary interpreter to infer that blacks are more disturbed and maladjusted than whites. Although Gynther's review seems to indicate differences in personality structure of blacks and whites may be due primarily

to differences in culture, his conclusions are not definitive. Black versus white comparison, utilizing other widely used personality tests are needed to determine if similar response differences exist. It is probably time that most personality inventories (including the MMPI) be sufficiently studied to isolate possible racial differences.

It is the authors' opinion that there is a strong need to investigate not only pathological aspects of personality (as, for instance, are measured by the MMPI) but also those personality characteristics which are descriptive of normal personality functioning. The California Psychological Inventory (CPI) (Gough, 1957) is an objective personality inventory which assesses major aspects of normal personality. It is frequently used both for personality assessment and research purposes. Although there have been a number of CPI studies reporting race and ethnic differences (see for example, Fenelon & Megargee, 1971; Gill & Spilka, 1962; Mason, 1969; Pfeifer & Sedlacek, 1974), more work on these issues is clearly needed.

Previous investigations of the factor structure of the CPI scales have demonstrated considerable invariance over diverse population samples (Megargee, 1972), and it has been argued that the CPI has substantial cross-cultural invariance. Megargee concludes that further factor analytic studies are not necessary in view of the present body of literature. However, none of the studies cited by Megargee included comparable samples of blacks, or other minority groups so that factorial invariance has not been established, at least with respect to minority group samples. Thus, comparison samples of blacks and other minority groups would seem to be legitimate sources for further studies of the CPI.

The present study compared the responses of college-age blacks and whites on the CPI, an instrument designed to assess nonpathological aspects of personality. The analysis was in terms of (a) sex differences, (b) ethnic group differences, (c) socioeconomic difference, and (d) a comparison of the factors which emerged for black and white community college students.

## Method

### Subjects

Subjects were black and white freshmen and sophomores, attending class at a community college. Students were selected from psychology, sociology, anthropology, English, and biology classes. Ages ranged from 17 to 45 with no significant mean age difference between sex or ethnic groups. The subjects were 772 volunteers for the study.

An occupational classification system developed by Schneider and Lysgaard (1953) was applied in order to classify subjects with regard to socioeconomic status. Occupational classes derived were in terms of the degree of supervisory control over "lower" occupations and independence of supervisory control over "higher" occupations. In addition, the present study employed an "unclassifiable" category for those parents listed as deceased if knowledge of the parents' occupation was unknown, living in another city with job unspecified, or as welfare recipients, or as unemployed.

### Materials

The CPI (Gough, 1957) which was intended primarily for normal subjects to use and develop descriptive concepts that have broad personal and social relevance, was used in this study. It is a self-administering questionnaire made up of 480 items, with 18 standard scales, and is intended to provide a comprehensive survey of an individual from a social interaction point of view. The scales include measures of Dominance (*Do*), Capacity for Status (*Cs*), Sociability (*Sy*), Social Presence (*Sp*), Self-Acceptance (*Sa*), Sense of Well-being (*Wb*), Responsibility (*Re*), Socialization (*So*), Self-Control (*Sc*), Tolerance (*To*), Good Impression (*Gi*), Communitality (*Cm*), Achievement via Conformity (*Ac*), Achievement via Independence (*Ai*), Intellectual Efficiency (*Ie*), Psychological Mindedness (*Py*), Flexibility (*Fx*), and Femininity (*Fe*).

### Procedure

CPIs were administered to groups in the classroom. Subjects were instructed to indicate their age, parental occupation, sex, and ethnic membership on the

Table 1

Significant ANOVA Effects on CPI Scales by Ethnic Group, Sex and Socioeconomic Group

Source	Cs	Sp	Wb	Re	So	To	Gi	Cm	Ac	Ai	Ie	Fx	Fe
Ethnic Group (A)		*	*			*	*	*		*	*	*	
Sex (B)		*		*	*			*		*			*
Socioeconomic Group (C)													
A x B	*		*	*	*			*	*	*			*
B x C (socioeconomic status)			*		*			*	*		*		

Note: Only those variance sources which proved significant by a MANOVA are listed.

\* Significance at  $p < .05$ .

back of the answer sheet. Family income was also requested, if known to the student. Subjects were assigned to the cells generated by the Ethnic Group X Sex X socioeconomic status design.

### Results

#### Mean Comparisons

Multivariate analyses of variance over all dependent variables ( $p \leq .05$ ) yielded significant Ethnic Group, Sex, Ethnic Group X Sex, and Ethnic Group X Occupation effects. For these variance sources, univariate analyses of variance were performed over all CPI scales. The significant effects ( $p \leq .05$ ) are indicated in Table 1. Results are presented for each scale respectively, and main effects are not interpreted when accompanied by a significant interaction.

Since there were no significant effects for the scales *Do*, *Sy*, *Sa*, *Sc*, and *Py*, these are not presented. A description of the significant main and interaction effects follows below. All comparisons were made at the .01 level using Scheffe's test.<sup>1</sup>

#### Cs

The significant Race X Sex interaction occurs because the black females score significantly lower than white males, white females, and black males.

#### Sp

On this scale, whites scored higher than blacks, and males scored higher than females.

#### Wb

Here, black females scored lower than white males and white females. While there are no sex differences within the first socioeconomic group, the males score higher

than the females in socioeconomic groups 2 through 5, with a significant difference between sex present in group 4.

#### Re

White females scored significantly higher on this scale than did white males, black females, and black males.

#### So

As with the *Re* scale, white females had significantly greater scores than white males and blacks of either sex. Females in the 4th and 5th socioeconomic groups score lower than females in 1st socioeconomic group.

#### To

Whites had significantly higher scores than blacks on this scale.

#### Gi

Blacks scored significantly higher than whites on the *Gi* scale.

#### Cm

White females had larger means than black males and black females. The Sex X Socioeconomic class interaction is due to the low mean obtained by males in the 5th socioeconomic class. This mean is significantly lower than most of the other means.

#### Ac

The Ethnic Group X Sex Interaction reflects the tendency of white females to score higher than white males. The females in the 1st socioeconomic group had higher scores than other occupational groups.

#### Ai

White females and males scored significantly higher than blacks of both sexes. The white females also had significantly higher scores than the white males.

#### Ie

Whites scored significantly higher than blacks on this scale. The occupation by sex interaction was a function of high scores obtained by females (category 1) and males (category 2).

<sup>1</sup> A table of means and standard deviations for all the groups over the CPI scales is available on request from the senior author.



F<sub>x</sub>

Whites had higher scores than blacks.

F<sub>e</sub>

Both black and white females had higher scores than black and white males on this scale.

### Factor Analyses

Principal components analyses of black males, black females, white males and white females yielded 4 factors (by the screen test and the eigen values exceeding unity criterion) respectively, and these were rotated separately using the varimax procedure. Solutions derived from the black males were compared with the white male solution via congruence coefficients. The factor structures for black male and white males show little, if any, correspondence (only 1 coefficient exceeded .50 - a value of .65). The factors obtained from the black and white females closely matched each other (*Mdn* coefficient = .90; range = .76 to .98).

For the white males factor I has high loadings on five of the 18 CPI scales: *Do*, *Cs*, *Sr*, *Sp*, and *Sa*. This factor has been previously described as Social Poise or Extraversion (Megargee, 1972). Factor II scales are most closely associated with the Class II scales, and are similar to a General Adjustment factor. Factor III for white males demonstrated substantial loadings on scales *Sc*, *Gi*, *To*, and *Pr* with the highest loading on *Gi*. These are measures of Self-Control, Good Impression, Tolerance, and Psychological Mindedness. The *Sc*, *To*, and *Gi* scales belong to the Class II scales as described by Gough in his CPI manual. Factor IV has substantial loadings on scales *Ai*, *Fx*, and *Ie*. These are measures of Achievement via Independence, Flexibility, and Intellectual Efficiency. *Ai* and *Fx* are included in the Class III scales and *Fx* is in the Class IV scale according to Gough's CPI manual. The factor loading range is from .52 to .79 with the highest loading on Flexibility (*Fx*).

Factor I, on the black males, illustrates high loading on scales *Wh*, *Re*, *So*, *Sc*, *To*, *Gi*, *Ac*, and *Ie*. The loadings range from .60 to .85 with the highest loading on the Self-Control (*Sc*) scale. These

scales most closely conform to the Class II scales as described by Gough in his CPI handbook. Factor II demonstrates high loadings on *Do*, *Cs*, *Sy*, *Sp*, and *Sa*, with the highest loading on Self-Acceptance (*Sa*). These scales are representative of Gough's Class I scales which are measures of Poise, Ascendancy, and Self-Assurance. The loadings range from .60 to .83. Factor III illustrates substantial loadings on scales *Ai* and *Fx*. They are measures of Achievement and Flexibility. They are Class III and Class IV scales respectively according to Gough's CPI manual. Factor IV illustrates minimal loading for scales *Pr* and *Fe*. The loadings are .50 and .55 respectively. They are most closely associated with Class IV measures of Intellectual and Interest Modes.

For the white and black females the Factor I scales are *Wh*, *Re*, *Sc*, *To*, *Gi*, *Ac*, *Ie*. The loadings range from .62 to .91 with the highest loading on the scale measuring Self-Control (*Sc*). Factor II variables (which include scales *Do*, *Cs*, *Sy*, *Sp*, and *Sa*) are only Class-I scales as described by Gough in his CPI manual. These scales are measures of Poise, Ascendancy, and Self-Assurance. Factor III variables include *To*, *Ai*, and *Fx*. These scales are not associated with any specific class of scales as described in the CPI Manual. They are measures of Tolerance, Achievement via Independence, and Flexibility. Finally, Factor IV includes scales *So*, *Cm*, and *Fe*. These are measures of Socialization, Communality, and Femininity.

### Discussion

The finding of differences in patterns among personality test scores as a function of ethnic group membership is consistent with studies reported by Harrison and Kass (1967), McDonald and Gynther (1962, 1963) and Gynther (1972). Emergence of different patterns seems to signal the importance of ethnicity in production of differential configurations of personality test scores and personality structure. More specifically, this study illustrated that differential test scores among blacks and whites do exist.

At first glance, the unwary investigator



might interpret these results as suggestive of a maladaptive and inferior personality in blacks, as noted by Gynther (1972). However, since the CPI scales measure traits important to social living and social interaction, an alternative hypothesis is that differential social conditioning will create differential personality test responses, scores, and structure between blacks and whites.

Analysis of the scale score differences reveal differences on those CPI scales important to personal adjustment, academic potential, and interest modes. Blacks score significantly lower than whites on scales *Wb*, *To*, *Cm*, *Ai*, *Ie*, and *Ex*. If social variables such as those described by Comer (1972), Grier and Cobbs (1969), Beller (Note 1) and Gynther (1972) allude to the debilitating effects of racism, job discrimination, and social isolation, then these differences should be apparent in differential test scores and personality structure. Additionally, blacks score higher on *Sc* and *Gi* which are measures of Self-Control and Good Impression. This finding can be interpreted as a reaction of blacks in their efforts to combat and adjust to an aversive environment. That is, blacks must demonstrate a high level of self-control as well as demonstrating those behaviors, attitudes, and values which will allow them to avoid negative reactions.

Further, the CPI scales were standardized using white middle class college and high school populations. Neither Gough (1957) nor Megargee (1972) cite studies wherein minority population samples are used, or included in the standardization sample population. Data from this study, on the other hand, was acquired from a normal black and white community college population. Therefore, if the CPI measures the characteristics of the personality which have wide and pervasive applicability to human behavior and relate to favorable and positive aspects of the personality as stated by Gough, then the mean scale scores for blacks should not demonstrate a significant difference when compared to the mean scale scores for whites. Yet, significant differences were demonstrated illustrating a differential social living and social interaction

for blacks when compared to whites. This line of reasoning is consistent with the positions advocated by Comer (1972), Grier and Cobbs (1968), and Gynther (1972) as well as others who have come to recognize the differential nature of the black and white experiences. Thus, cross-cultural invariance of the CPI is not substantiated by the results of this study.

The interaction of ethnic memberships and sex produced significant mean differences on 8 of the 18 CPI scales. This gives additional impetus to the position that differential social conditioning produce differential responding to standardized personality tests.

Unlike the differences between ethnic groups, differences in the sexes have long been accepted as self-evident. This study clearly reiterates those differences. Six of the CPI scales show significant mean differences with the *Fe* scale illustrating the greatest degree of difference. This finding is consistent with those of Hill (1966) and Davids (1966). However, those differential scores were found on scales other than those described by Hill and Davids. The interaction between sex and occupation produced significant mean differences on 5 of the 18 CPI scales. A finding such as this illustrates the notion that there are a multiplicity of variables contributing to the differential test scores and personality of males and females.

The results of the factor structure investigation illustrated considerable disparity in the factor structure (for males) of black college level students in comparison to white. This finding is consistent with the position suggested by the Harrison and Kass (1967) study. That is, different cultures should result in differences in responses and correlations among scale scores on personality tests when blacks and whites are compared. A somewhat contradictory position is advocated by Megargee (1972) in his CPI handbook. He suggests that the CPI has cross-cultural applicability. Reportedly, the 20 factor analytic studies in Megargee's handbook were over a diverse population.

The black male group's factor composition illustrates three of the four factors reported by Megargee's review of 20 factor analytic studies in his CPI handbook.

Factor I is the largest factor extracted in most of the analyses reported. This appears to be consistent with the present investigation's results. This factor appears to be a measure of "adjustment by social conformity" as suggested by Mitchell and Pierce-Jones (1960). Factor II and III compare favorably with previous factor analytic investigations also. These are measures of "Interpersonal Effectiveness" and "Conventionality" as suggested by Bouchard (1969). However, Factor IV, of the black males is not indicative of any studies reported by Megargee. The fourth factor for the black males is composed of scales *Gi*, *Pr*, and *Fe*. This factor appears to be a combination of measures of Social Conformity and Sex Role Identification.

Results of the white male factor analysis when compared to the 20 studies reported by Megargee illustrate notable deviations. That is, Factor II reported in the Megargee review which measures "Capacity for Independent Thought and Action" (Mitchell & Pierce-Jones, 1960) is similar to Factor I of the white males in the present study. Factor II of the white males is composed of four of the ten scales for Factor I in the Megargee studies. Factor II appears to be a measure of Adjustment but without an emphasis on Social Conformity. Factor III is a combination of scales composing Megargee's Factor I and III. These are factors measuring Social Conformity and Conventionality, respectively. Factor IV is similar to Factor III as noted in the Megargee review.

When black and white female factor structures were compared, a striking degree of similarity was observed. Apparently, similarity in social conditioning and social interaction exists among black and white female college students. The black and white females illustrate factor structure almost identical to those reported by Megargee in his review. Therefore, although this research reveals some similarity, especially in the case of the black and white females, the data question the cross-cultural invariance of the factors of the CPI.

The basic conclusion of the present study is that ethnic group membership is a determinant of differential patterns of

personality test scores and personality structure for this population of Community College students. These differential patterns of scoring and structure seem to be more clearly manifested for black males than for black females when compared to white males and females. One plausible explanation is that the black community college male when compared with the white community college male is more likely to demonstrate conventional stereotyped responses. This can be interpreted as the black male's attempt to cope with a nonsupportive threatening environment by trying not to appear different. A second interpretation, is that white male community college students may simply manifest a different constellation of scale groupings from those persons tested in previous studies.

Lastly, the implication for future research using the CPI is apparent. Since the Harrison and Kass (1967) and the Gynther (1972) studies, the importance of this research cannot be over-stressed. It would be of interest to determine if black college level females differentially respond to test items but acquired the same CPI scale scores as do white college level females. Secondly, can the CPI be used to classify blacks and whites differentially with scale scores as the only criteria? Third, what is the probability of misclassification due to misinterpretation of these differences, thereby construing blacks as deviant based on the CPI scale scores? Lastly, do white community college students, in general, manifest a different constellation of scale grouping from those persons tested in previous studies? If so, then perhaps differential social conditioning exists within the same culture groups and interpretation of test results for community college male students should be re-evaluated. It is important that questions such as these be answered if the area of personality testing is going to be made relevant and applicable to all persons subject to its application.

#### Reference Note

- 1 Beller, E. K. *Maternal behavior in lower class Negro mothers*. Paper presented at the meeting of the Eastern Psychological Association, Boston, April, 1967.

## References

- Baughman, E. E. *Personality: The psychological study of the individual*. Englewood Cliffs, New Jersey: Prentice-Hall, 1972.
- Bouchard, T. J., Jr. Personality, problem-solving procedures, and performance in small groups. *Journal of Applied Psychology Monograph*, 1969, 53, 1-29.
- Comer, J. P. *Beyond black and white*. New York: Quadrangle, 1972.
- Davids, A. Psychological characteristics of high school male and female potential scientists in comparison with academic underachievers. *Psychology School*, 1966, 3, 79-87.
- Genelon, H. R., & Megargee, E. I. The influence of race on the manifestation of leadership. *Journal of Applied Psychology*, 1971, 55, 353-358.
- Gill, L. J., & Spilka, B. Some nonintellectual correlates of academic achievement among Mexican-American secondary school children. *Journal of Educational Psychology*, 1962, 53, 144-149.
- Gough, H. G. *Manual for the California Psychological Inventory*. Palo Alto, California: Consulting Psychologists' Press, 1975.
- Grier, W. H., & Cobbs, P. M. *Black Rage*. New York: Bantam, 1968.
- Gynther, M. D. White norms and black MMPIs: A prescription for discrimination? *Psychological Bulletin*, 1972, 5, 386-403.
- Harman, H. H. *Modern factor analysis*. Chicago: University of Chicago Press, 1967.
- Harrison, R. H., & Kass, E. H. Differences between Negro and white pregnant women on the MMPI. *Journal of Consulting Psychology*, 1967, 31, 454-473.
- Hill, A. H. Autobiographical correlates of achievement motivation in men and women. *Psychological Reports*, 1966, 18, 811-817.
- Holtzman, W. H. Personality structure. *Annual Review of Psychology*, 1965, 16, 119-156.
- Kardiner, A., & Ovesey, L. *The mark of oppression*. New York: Norton, 1951.
- Mason, E. P. Cross-validation study of personality characteristics of junior high school students from American, Indian, Mexican, and Caucasian ethnic backgrounds. *Journal of Social Psychology*, 1969, 77, 15-24.
- McDonald, R. L., & Gynther, M. D. MMPI norms forms for southern adolescent Negroes. *Journal of Social Psychology*, 1962, 58, 277-282.
- McDonald, R. L., & Gynther, M. D. MMPI difference associated with sex, race, and class in two adolescent samples. *Journal of Consulting Psychology*, 1963, 27, 112-116.
- Megargee, I. E. *The California Psychological Inventory Handbook*. San Francisco: Jossey-Bass, 1972.
- Mitchell, J. V., Jr., & Pierce-Jones, J. A factor analysis of Gough's California Psychological Inventory. *Journal of Consulting Psychology*, 1960, 24, 453-456.
- Pfeifer, C. M., & Sedlacek, W. E. Predicting black student grades with nonintellectual measures. *Journal of Negro Education*, 1974, 43, 67-76.
- Schneider, L., & Lysgaard, A. The deferred gratification pattern. *American Sociological Review*, 1953, 18, 142-149.
- Sicha, M. H. *A study of Rorschach Erlebniss-Typus of comparable white and Negro subjects*. Unpublished doctoral dissertation, Columbia University, 1939.
- Wrightsmann, L. S. *Social psychology in the seventies*. Monterey, California: Brooks/Cole, 1972.

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## Sex Differences and Androgyny in Fantasy Content

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**Summary:** Fantasy stories were composed by 153 undergraduates (93 females, 60 males) who also responded to the Bem Sex Role Inventory. The fantasy stories were collected by group administration of a Thematic Apperception Test. The stories were content analyzed along 17 imagery categories. Males and females differed significantly in ten of these categories. The results indicate a substantial continuity of sex differences in fantasy content between earlier decades and the mid-1970s. However, women had relatively more imagery of a self-assertive, pleasurable, and careerist nature than had been found in earlier studies. The fantasies of sex-typed persons were more situation-bound and more sexual than those of androgynous persons. Sex-typed persons appear to experience limitations in fantasy production which parallel their limitations in overt behavior.

The last decade in North America has been characterized by major modifications in sexual behavior and relations between the sexes. Numerous recent studies have investigated sex differences and sex roles in relation to attitudes and overt behavior. However, the impact of recent social changes on fantasy content in normal populations has not been extensively studied. The principal study of sex differences in fantasy was restricted to "fear of success" and related types of imagery (Hoffman, 1974; Horner, 1968). Both cross-sectional and longitudinal data showed that during the course of a decade the level of fear of success decreased for females, increased for males (Hoffman, 1974, 1977). There are also indications that a shift in the balance of affect in fantasy has occurred in the last two decades. Studies conducted in the 1950s found that women's fantasies were tilted toward more painful content and less pleasurable content than were men's fantasies (Eron, Terry, & Callahan, 1950; Newbigging, 1955; Sarason & Sarason, 1958), but in a recent report, Murstein (1972) indicated that college females show a more positive tone in their fantasies than college males.

This study was designed to investigate the present nature of sex differences along several dimensions of fantasy content. The original content categories included were ones for which earlier studies of fantasy in normal populations had detected reliable sex differences. Males had been found to have higher levels of imagery about power, aggression, and violence (Pitcher & Prelinger, 1963; Sanford, 1943; Symonds, 1945; Wagman, 1967)

and more imagery about physical sex (Lindzey & Goldberg, 1953; Symonds, 1945; Wagman, 1967). Females had been found to have higher levels of affiliative imagery and imagery of familial relations (Exline, 1960, 1962; Lansky, Crandall, Kagan, & Baker, 1961; Pitcher & Prelinger, 1963; Sanford, 1943; Symonds, 1945; Wagman, 1967). In one study (Wagman, 1967) females had been found to have higher levels of oral imagery than males. Most past studies had not found sex differences in the overall level of achievement-related imagery (Crandall, Katkowsky, & Preston, 1962; Lindzey & Goldberg, 1953; Wagman, 1967; Wrightsman, 1962), but this category was included because of its relevance to the recent trend toward elimination of barriers to women's achievement in traditionally male-dominated occupations.

Sex differences in masochistic fantasies have been the subject of controversy. Some psychodynamically-oriented writers (e.g. May, 1966) have maintained that the fantasies of females are more masochistic than those of males. Reik (1941) took a different view of the matter and argued that sex differences in masochistic fantasy are qualitative rather than quantitative. He held that male masochistic fantasies involve more physical pain, whereas the masochistic fantasies of females are more diffuse and tend to involve humiliation rather than physical pain. No empirical studies testing Reik's hypothesis were found, but the point was deemed sufficiently interesting for the inclusion of the categories "physical pain" and "humiliation" in the present study.



A number of other imagery categories were added to the study because of their relevance to the roles traditionally assigned to the sexes: "physical sports," "boredom," "anxiety," and "activity inhibition." Differences in the socialization experiences of males and females might plausibly be expected to result in higher levels of activity inhibition, boredom imagery, and anxiety imagery for females and higher levels of sports imagery in males. Since the subjects in this study were all university students, their involvement with the academic environment was a matter of interest. Imagery related to school was divided into imagery about "schoolwork outside of class" and "classroom" imagery. The latter category was particularly important because the fantasy measure used in this study was administered in a classroom setting, so that "classroom" imagery might reflect the extent to which subject fantasy was bound to the immediate physical surroundings. This would permit a contrast with the categories "family" and "career," which involved imagery about topics substantially removed in time and space from the current environment of the students.

Differences between males and females constitute only one parameter of sex-role related differences in fantasy content. Within each sex there is a continuum of self-ascribed masculinity-femininity (Terman & Miles, 1936). Bem (1974, 1975) has contrasted persons of both sexes who described themselves as exclusively "masculine" (self-reliant, assertive, athletic, etc.) or "feminine" (yielding, affectionate, sensitive to the needs of others, etc.) with persons who described themselves as possessing both kinds of qualities. Bem termed the former people "sex-typed," the latter "androgynous" and found that sex-typed individuals suffer limitations in their ability to act flexibly in a society that makes complex demands on its members. An obvious question is whether sex-typed individuals are limited in their fantasy as well as in their overt behavior. Singer (1975) hypothesized that strongly sex-typed people would have relatively underdeveloped fantasies and that their fantasies would be predominantly sexual in character. The system of imagery cate-

gories used in this study could detect differences in the fantasies of sex-typed and androgynous individuals. Sexual imagery should be a less prominent component of the fantasies of androgynous individuals. The androgynous should also experience in fantasy more events beyond their immediate physical surroundings.

### *Method*

#### *Subjects*

Two personality tests were administered to three introductory-level undergraduate psychology classes at the University of Michigan during Fall semester, 1975, and Winter, 1976. The Thematic Apperception Test (TAT) was administered early in the semester and the Bem Sex Role Inventory (BSRI) was administered between six and eight weeks later. Both tests were presented as demonstrations of personality assessment devices. In all, 93 females and 60 males took booth the TAT and the BSRI and were included in the study. Data from 18 other students who were not present in class on both testing occasions were excluded from the study.

#### *Instruments*

The instruments used were the Bem Sex Role Inventory (Bem, 1974) and the Thematic Apperception Test. The TAT was administered in class with the students writing their stories on forms provided by the experimenter. The standard prefatory instructions were given on a cover page and four prompting questions appeared on each of the six succeeding pages of the test: "What is happening? Who are the persons?," "What led up to this situation? That is, what has happened in the past?," "What is being thought? What is wanted? By whom?," "What will happen? What will be done?," "The cue consisted of the name of a central character presented on the first of the six test pages. Male subjects were given TATs with male name cues, females were given tests with female name cues.

In addition to the name of the central character, a pair of clock faces appeared at the top of the first test page. The clock on the left indicated 8:00 and carried the

Table 1  
Interrater Reliability and Sample Content of Imagery Categories

<i>Imagery Category</i>	<i>Reliability<sup>a</sup></i>	<i>Sample Content<sup>b</sup></i>
nAchievement	.91	"Dan wants to become a great scientist."
Career	.86	"Linda is a trial lawyer in New York."
nAffiliation	.89	"He went over to talk to his friends."
Family	.84	"Harry was not happy with his parents."
nPower	.86	"Joe tried to force them to listen."
Aggression	.81	"They had a tremendous argument."
Physical sports	.85	"John is a track star in high school."
Oral intake	.94	"They sat down and ate lunch."
Boredom	.83	"He was disinterested, nearly dozed off."
Pleasure	.87	"David enjoys this activity."
Anxiety	.85	"She is worried about her vacation."
Physical pain	.91	"She didn't know a cut could hurt so."
Humiliation	.90	"John was disgraced by the failure."
Classroom	.98	"Susan arrived late for her 8:00."
Schoolwork outside	.93	"They stayed up studying their Chemistry."
Sexual activity	.91	"They made out very excitedly."
Activity inhibition	.97	"It did not seem like rain."

<sup>a</sup>Pearson product-moment correlation coefficients.

<sup>b</sup>Excerpted from the actual protocols.

caption "8 A M". The clock on the right indicated 11:00 and carried the caption "11 A M". The name of the central character was not repeated on the next five test pages, but at the top of each a new time period was depicted by the same means as that used on the first page. Thus at the top of the second page, the time period 11:00 A M to 1:00 P M was depicted, and the next four pages depicted (in order) 1:00 P M to 5:00 P M, 5:00 P M to 7:00 P M, 7:00 P M to 11:00 P M, and 11:00 P M to 7:00 A M. Subjects wrote continuous stories about the single central character whose name was presented on the first page, but in nearly every case they introduced other subsidiary characters at some point in their stories.

Subjects wrote stories for 24 minutes (four minutes per page, one minute per prompting question). Test administration was rigorously timed. At the end of each minute, subjects were instructed to move on to the next question, and at the end of each four-minute period, they were instructed to turn to the next page.

### Coding

Seventeen imagery categories were coded from the TAT protocols. The coding was carried out by 12 students enrolled in an upper level course on person-

ality assessment. One of the coders scored nAchievement (McClelland, Atkinson, Clark, & Lowell, 1958) and later scored nPower (Winter, 1973). Another scored nAffiliation (Heyns, Veroff, & Atkinson, 1958) and aggressive imagery (Lesser, 1958). In both cases, the scorings of the two categories were separated by a month. These special procedures were necessitated because the coding of these four categories was more complicated than that for the other imagery categories. The remaining ten coders scored the 13 other categories simultaneously, scoring only explicit imagery in each category. The scoring of activity inhibition followed the procedure of McClelland (McClelland, Davis, Kalin, & Wanner, 1972). Sample content scored in each category is given in Table 1.

Each page of each protocol was scored individually as 0, 1, or 2 in each of the imagery categories, 0 if no imagery in that category was present, 1 if imagery in that category was present, 2 if the imagery in that category was substantial enough to qualify as a theme by the standards described by McClelland et al. (1958). Thus for the six-page protocol, each subject received a total score of between 0 and 12 in each of the imagery categories. This system of scoring by absence-presence-

Table 2  
Sex Differences in Total Scores of Imagery Categories

Imagery Category	Males <sup>a</sup>		Females <sup>b</sup>		t
	Mean	Standard Deviation	Mean	Standard Deviation	
nAchievement	2.90	1.76	2.67	1.60	.84
Career	3.61	1.86	3.70	2.21	2.7**
nAffiliation	3.58	2.74	5.47	2.44	4.48**
Family	1.69	1.12	2.75	2.44	6.12**
nPower	3.29	1.87	3.42	1.77	.45
Aggression	3.05	2.14	3.16	1.89	.34
Physical sports	1.22	1.07	.92	1.12	1.38*
Oral intake	2.17	1.42	2.78	1.79	3.81*
Boredom	1.73	1.00	1.92	1.13	1.04
Pleasure	2.02	2.14	2.81	2.50	2.03*
Anxiety	2.00	2.08	3.18	2.55	6.61**
Physical pain	1.05	.63	.90	.47	1.8*
Humiliation	1.39	.84	1.74	1.48	1.68*
Classroom	2.45	1.55	2.72	1.71	1.40
Schoolwork outside	2.76	1.79	2.55	.81	.50
Sexual activity	3.02	1.54	2.83	1.40	2.01*
Activity inhibition	2.56	1.31	2.80	1.69	.67

\* One-tailed *t* test significant at .05 level.

\*\* One-tailed *t* test significant at .01 level.

<sup>a</sup> *n* = 60

<sup>b</sup> *n* = 93

thema was undertaken to minimize the impact of protocol length (Entwistle, 1972).

### Reliability

Successive random samples, each of 20 protocols, were drawn to test the reliability of the scoring of each of the 17 imagery categories. Four new coders were used in the reliability study. Pearson product-moment correlations were calculated for total scores according to first and second codings. These are given in Table 1. The reliability coefficients were all above .8.

To check for the artificial creation of sex differences by coders projecting sexual stereotypes onto the main characters in the projective stories, all names, pronouns, and other terms permitting gender identification were removed from a random selection of 75 of the 153 protocols prior to the first coding. This problem was potentially very serious in light of the fact that in this study sex of central character was matched with sex of subject. The 75 protocols in which the sex of the characters was not identifiable were contrasted with the 78 protocols

which were unaltered. For each of the 17 imagery categories, a chi-square test was computed to compare the percentages of males' protocols and females, protocols scored in the character sex-removed protocols versus the unaltered protocols. None of these tests reached statistical significance, which indicates that the projection of sexual stereotypes onto the protocols by the scorers did not produce artificial sex differences.

### Results

Significant sex differences were found in ten of the 17 imagery categories. Women had significantly higher levels of imagery of nAffiliation, oral intake, career, pleasure, anxiety, family, and humiliation. Men had significantly higher levels of imagery of sexual activity, sports, and physical pain. There were no sex differences in the levels of imagery of nAchievement, nPower, aggression, activity inhibition, boredom, the classroom, and schoolwork outside of class. These results are summarized in Table 2. The major differences between the results of this and earlier studies are in the imagery categories of

Table 3

Correlations of Total Scores on  
Imagery Categories with Absolute Values  
of Androgyny Scores

Imagery Category	Males	Females
nAchievement	.09	-.03
Career	-.33**	-.24*
nAffiliation	.02	.04
Family	-.25*	-.21*
nPower	-.07	-.09
Aggression	.09	-.01
Physical sports	-.15	-.07
Oral intake	.10	.15
Boredom	.25*	.28**
Pleasure	-.04	.01
Anxiety	-.10	.23*
Physical pain	.00	-.06
Humiliation	.14	.07
Classroom	.27*	.23*
Schoolwork outside	.06	.15
Sexual activity	.26*	.22*
Activity inhibition	-.01	-.18

\*  $p < .05$ , \*\*  $p < .01$ , correlation significant at .05

\*\* Significant at .01 level

pleasure, careers, nPower and aggression. Women in this study manifested more imagery of pleasure than did men, whereas studies in earlier decades had detected a sex difference in the opposite direction. While earlier studies have detected no sex differences in achievement-related imagery, this study revealed that present-day college women have more imagery about careers than do their male counterparts. It is important to note that this study was in accord with earlier studies in finding no sex differences in the overall level of nAchievement, indicating that the change that has occurred in achievement-related imagery is specific to the anticipation of future careers. Earlier studies had found that men had higher levels of aggressive and power-related imagery, but no sex differences in these categories were detected in this study.

Scores in each imagery category were compared with the absolute values of the androgyny scores from the BSRI. The greater the absolute value of the androgyny score, the more the person is sex-typed (Bem, 1974). Thus high values represent feminine-typed females, masculine-typed

males, feminine-typed males and masculine-typed females. Table 3 shows the product-moment correlations for male and female subjects of the total scores on each imagery category with the absolute value of the androgyny score. A separate calculation which excluded the two feminine-typed males and the seven masculine-typed females (using the classification system given by Bem, 1974) did not alter the results. Five relationships were statistically significant for both males and females. Sex-typing was positively related to imagery of sexual actions, boredom, and the classroom, and negatively related to family imagery and career imagery. For females sex-typing was positively related to anxiety imagery, but this relation did not hold true for males.

### Discussion

Some of the major sex differences in fantasy content found in earlier decades were apparent among college students of the mid-1970s. The tendencies of females toward more affiliative and familial fantasies were still in place, as were the higher levels of sexual imagery among males. The persistence of basic sex differences in fantasy content despite social and cultural innovation was predicted by Sanford (1943). In some respects, the individual imaginations of people may act as a repository of sex differences. The implications of persistent sex differences in imaginal content need to be extracted, though each observer's own sexual political convictions will determine whether this phenomenon is viewed with relief, with nonchalance, or as an obstacle to be overcome.

Sex differences were also found in some of the exploratory categories of imagery. Men had more imagery about physical sports. Women exceeded men in the level of anxious content, which is in agreement with the findings of sex differences in self-report of anxiety level, but in disagreement with the results of behavioral observation studies, which tend to find no significant sex differences in anxiety (Maccoby, 1974). The tendency of women toward more oral imagery is connected with the affiliative trend in their fantasy. An examination of the TAT protocols revealed that more than 70% of the instances



of oral imagery were commensal in nature. Females were especially prone to include in their protocols stories that involved socializing over meals. Reik's observations about sex differences in masochistic fantasies were confirmed. Males fantasized more physical pain, while females fantasized more humiliation. This lends support to the idea that sex differences in masochism are qualitative rather than quantitative.

The findings of this study that women had more career and pleasure imagery than men and roughly as much aggressive and power-related imagery as men may represent actual temporal shifts in the distribution of fantasy content. This study confirmed Murstein (1972) insofar as females had more imagery of pleasure in their imaginal stories than did men. Taken together, these findings suggest that in their imaginal lives women are now asserting themselves and enjoying themselves more than was the case in earlier decades. It may be that college women in the mid-1970s are more positive, aggressive, and career-oriented than their counterparts in earlier decades. It is also possible that males have become more negative, less aggressive, and less career-oriented, as Hoffman (1974) argued in her study of sex differences in "fear of success." The problem is not easily resolved, since differences in test procedure and populations make it difficult to compare absolute levels of the various types of imagery from earlier studies with those found in the present study. However, changes in sex differences in fantasy content are a matter of some social and cultural importance, and they deserve to be monitored in future research.

The behavioral limitations of the sex-typed individual appear to have their counterparts in the imaginal processes. The fantasy stories of sex-typed people tend to include large amounts of imagery concerning the immediate physical surroundings in which the stories were composed (in this case, the classroom) and involve less imagery about topics removed in time and space (in this case, the family and careers). Sexual fantasies occupy a larger place in the imaginal life of the sex-typed person. Imagery concerning boredom oc-

curs more frequently in the stories of sex-typed people. This last finding could be an indication of the impoverishment of fantasy that Singer (1975) noted in highly sex-typed individuals.

The concept of psychological androgyny may have many implications in the description of individual differences in personality functioning. Serious questions remain to be answered, however, before the explanatory value of psychological androgyny can be fully assessed. The extent to which the relative degree of androgyny or sex-typing is a reflection of social class or intelligence has not yet been determined. Even if androgyny represents uncontested personality variance, it is possible that the observed effects are due to a more general trait of psychological flexibility. In a study of androgyny and self-report of interpersonal behavior, Wiggins and Herzberger (1978) found that among male subjects androgyny did appear to be a subset of flexibility. The results of the present study lend some support to both the more general and the more specific interpretations of psychological androgyny. Androgyny was associated with greater transcendence of the testing situation, which would seem related to a general trait of flexibility. On the other hand, sex-typed people were characterized by greater amounts of sexual imagery, which is consistent with expectations derived from the specific concept of androgyny.

- Beck, S. D. (1975). *Journal of Personality and Social Psychology*, 28, 444-454.
- Bem, S. L. (1974). *Sex role and gender identity*. New York: Holt, Rinehart & Winston.
- Chen, M. L., & Kohn, A. (1975). *Journal of Personality and Social Psychology*, 28, 444-454.
- Children's Development (1962, 33, 641-661).
- Estroff, D. (1974). To dupel fantasy about family. *Journal of Personality and Social Psychology*, 28, 444-454.
- 473-478.
- 1960, 28, 397-412.

- Exline, R. V. Need affiliation and initial communication behavior in problem-solving groups characterized by low interpersonal visibility. *Psychological Reports*, 1962, 10, 79-89.
- Heyns, R. W., Veroff, J., & Atkinson, J. W. Scoring manual for the affiliation motive. In J. W. Atkinson (Ed.), *Motives in fantasy, action and society*. Princeton, New Jersey: Van Nostrand, 1958.
- Hoffman, L. W. Fear of success in males and females: 1965 and 1972. *Journal of Consulting and Clinical Psychology*, 1974, 42, 353-358.
- Hoffman, L. W. Fear of success in 1965 and 1974: A followup study. *Journal of Consulting and Clinical Psychology*, 1977, 45, 310-321.
- Horner, M. Sex differences in achievement motivation and performance in competitive and non-competitive situations. Unpublished doctoral dissertation, University of Michigan, 1968.
- Lansky, L. M., Crandall, V. S., Kagan, J., & Baker, C. T. Sex differences in aggression and its correlates in middle class adolescents. *Child Development*, 1961, 32, 45-58.
- Lesser, G. S. Conflict analysis of fantasy aggression. *Journal of Personality*, 1958, 26, 29-41.
- Lindzey, G., & Goldberg, M. Motivational differences between male and female as measured by the Thematic Apperception Test. *Journal of Personality*, 1953, 22, 101-117.
- McClelland, D., Davis, W. N., Kalin, R., & Wanner, E. *The drinking man*. New York: Free Press, 1972.
- McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. A scoring manual for the achievement motive. In J. W. Atkinson (Ed.), *Motives in fantasy, action and society*. Princeton, New Jersey: Van Nostrand, 1958.
- Maccoby, E. E., & Jacklin, C. N. *The psychology of sex differences*. Stanford University Press, 1974.
- May, R. Sex differences in fantasy patterns. *Journal of Projective Techniques*, 1966, 30, 252-259.
- Murstein, B. I. Normative written TAT responses for a college sample. *Journal of Personality Assessment*, 1972, 36, 109-147.
- Newbigging, P. L. Influence of a stimulus variable on stories told to certain TAT pictures. *Canadian Journal of Psychology*, 1955, 9, 195-206.
- Pitcher, E. G., & Prelinger, E. *Children tell stories. An analysis of fantasy*. New York: International Universities Press, 1963.
- Reik, T. *Masochism in modern man*. New York: Farrar, Straus, 1941.
- Sanford, R. N. Studies of personality and the environment. Part III of Physique, Personality and Scholarship. *Monographs of the society for research in child development*, 1943, 8, 125-326.
- Sarason, B. R., & Sarason, I. C. The effect of type of administration and sex of subject on emotional tone and outcome ratings of TAT stories. *Journal of Projective Techniques*, 1958, 22, 333-337.
- Singer, J. L. *The inner world of daydreaming*. New York: Harper & Row, 1975.
- Symonds, P. M. Inventory of themes in adolescent fantasy. *American Journal of Orthopsychiatry*, 1945, 15, 318-328.
- Terman, L. M., & Miles, C. C. *Sex and personality*. New York: McGraw-Hill, 1936.
- Wagman, M. Sex differences in types of daydreams. *Journal of Personality and Social Psychology*, 1967, 7, 329-332.
- Wiggins, J. S., & Holzmuller, A. Psychological androgyny and interpersonal behavior. *Journal of Consulting and Clinical Psychology*, 1978, 46, 40-52.
- Winter, D. G. *The power motive*. New York: Free Press, 1973.
- Wrightsmann, L. S. The effects of anxiety, achievement motivation, and talk importance upon performance on an intelligence test. *Journal of Educational Psychology*, 1962, 53, 150-156.
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## Clinical Correlates of the PRF Androgyny Scale in an Alcoholic Population

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**Summary:** Clinical correlates of the PRF Andro were examined in an alcoholic population. Measures included the Sensation Seeking Scale, Eysenck Personality Inventory, Symptom checklist 90, the Cornell Medical Index and Rotter's Locus of Control. Of 28 possible relationships, only five measures were found to be weakly associated with androgynous subtypes. Androgynous subtypes appear largely unrelated to the psychological and physical health of alcoholics.

In personality assessment, interpretations of a test or test construct are frequently overgeneralized and faulty inferences are commonly made regarding what a given test measures. Androgyny is a fairly recent psychological construct which is thought to reflect relative amounts of masculinity and femininity (Bem, 1974; Berzins, Welling, & Wetter, 1975; Spence, Helmreich, & Stapp, 1975). Of late, however, it has come to be associated with various indices of "psychological health." (Bem, 1974; Jordan-Viola, Fassberg, & Viola, 1976; Whetton & Swindells, 1977). In view of the growing popularity of androgynous typing and speculations that it may reflect certain attributes of mental health, it seemed of interest to investigate its possible correlates with other measures.

The present study employed a clinical population of alcoholic males to determine the relationship of androgyny subtyping to tests or scales measuring personality and physical and psychological functioning.

### Method

The subjects were 123 male volunteers aged from 22-62 years ( $m = 45.5$ ) hospitalized with a primary diagnosis of alcoholism at the Veterans Administration Hospital, Lexington, Kentucky.

Androgyny character types were derived from the Personality Research Form (PRF) using the median split procedure recommended by Berzins et al. (1975). Medians used in this study were generated from the current subject sample, resulting

in these subgroups: Masculine (high  $M$ , low  $F$ )  $n = 25$ ; Feminine (high  $F$ , low  $M$ )  $n = 36$ ; Androgynous (high  $M$ , High  $F$ )  $n = 34$ ; and Indeterminant (low  $M$ , low  $F$ )  $n = 28$ . In addition to the PRF, a variety of other tests were given: the Cornell Medical Index (Brodman, Erdmann, & Wolf, 1956); the SCL-90 (Derogatis, Lipman, & Covi, 1973); the Eysenck Personality Inventory (Eysenck & Eysenck, 1963); Rotter's (1966) I-E scale; and the sensation seeking scale (Zuckerman, Note 1).

### Results and Discussion

Relationships between the androgyny subtypes and other test scores were obtained by point biserial correlations. The subtypes were converted to a dichotomous variable by combining scores from three of the subtypes and contrasting this score with that from the fourth. For example, Masculinity was contrasted against  $A$ ,  $F$ , and  $I$  to yield two scores. As noted, only five significant correlations out of a possible 28 were found. Androgyny was not significantly related to endorsement of any of the physical nor psychiatric symptoms, however, the Feminine androgynous subtype was positively and significantly related to neuroticism ( $p < .05$ ). Not unexpectedly, both extraversion and sensation seeking were positively related to Androgyny ( $p < .01$ ) and ( $p < .05$ , respectively). While Feminine subtyping was negatively related to sensation seeking ( $p < .01$ ), Indeterminant subtyping was negatively associated with extraversion ( $p < .01$ ).

Correlations between androgyny subtypes and the various scales were not im-

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Table 1  
Correlations of Androgynous Subtypes With Clinical Scales

	Andro	Masc	Femin	Indet
Cornell	-.15	-.04	.12	.08
SCL — 90 G	-.08	-.04	-.01	.02
SCL — 90 Po	-.06	-.03	.13	-.04
Sen. Seeking	.22*	.16	-.25**	-.11
Extraversion	.27**	.11	-.06	-.33**
Neuroticism	-.07	-.12	.20*	-.04
Locus of Control	.15	.08	-.10	-.12

\*\*  $p < .01$ .

\*  $p < .05$ .

pressive. Significant relationships, when found, were usually predictable. For example, an Androgynous orientation was positively related to sensation seeking while Femininity was negatively related to it. Moreover, Femininity was positively associated with neuroticism. Similar interpretations could be made for the other three significant correlations. It should be noted, however, that in no instance did the correlations account for more than 16% of the variance.

Our data suggest that Androgyny as an indice of psychological health is at best questionable. In our sample of male alcoholics, interrelationships between androgyny charactertypes and other personality measures indicated low levels of dependence. In view of the wide range of measures employed and the fact that androgyny failed to differentially "load," it appears unlikely that subtypes derived from this concept can be used to make meaningful inferences about "psychological health."

#### Reference Note

1. Zuckerman, M. *A preliminary manual and research report on the sensation seeking scale*. Mimeographed Paper, Dept of Psychology, University of Delaware, Newark, Delaware, 1972.

#### References

- Bem, S. L. The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 1974, 42, 155-162.

- Bem, S. L. Sex role adaptability: one consequence of psychological androgyny. *Journal of Personality and Social Psychology*, 1975, 31, 634-641.
- Berzins, J. I., Welling, M. A., & Wetter, R. E. *The PRF Andro Scale User's Manual*, University of Kentucky, 1975.
- Brodman, K., Erdmann, A. J., & Wolff, H. G. *Medical Index Health Questionnaire Manual*. Cornell University Medical College, 1956.
- Derogatis, L. R., Lipman, R. S., & Covi, L. SCL-90: An outpatient psychiatric rating scale. *Psychopharmacology*, 1973, 9, 13-27.
- Eysenck, H. J., & Eysenck, S. B. *Manual for the Eysenck Personality Inventory*, Educational and Industrial Testing Service, San Diego, California, 1963.
- Jackson, D. N. *Personality Research Form Manual*. Research Psychologists Press, New York, 1967.
- Jordan-Viola, E., Fassberg, S., & Viola, M. T. Feminism, androgyny, and anxiety. *Journal of Consulting and Clinical Psychology*, 1976, 44, 870-871.
- Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 1966, 80, (609).
- Spence, J. T., Helmreich, R., & Stapp, J. Rating of self and peers on sex-role attributes and their relation to self-esteem and conceptions of masculinity-femininity. *Journal of Personality and Social Psychology*, 1975, 32, 29-39.
- Whetton, C. & Swindells, T. A factor analysis of the Bem Sex-Role Inventory. *Journal of Clinical Psychology*, 1977, 33, 150-153.

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## **Irrational Beliefs and Personality**

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*Summary.* This study investigated the relationship between irrational beliefs and the nonpathological personality characteristics origence and intellectence described by Welsh (1972, 1975b). The Adjective Check List (ACL) and the Irrational Beliefs Test (IBT) were administered to 319 college students. Data were analyzed for the entire sample and for males and females separately. In each case, two combinations of scores yielding significant canonical correlation coefficients were produced. The results offer a refinement to Ellis' personality model and suggest that irrational beliefs are insufficient as indications of psychopathology.

There is substantial evidence, both clinical and empirical, to support Ellis' (1962) proposition that adherence to a system of irrational beliefs results in psychopathological behavior. Beliefs may be characterized as irrational depending upon the extent to which they are not based on objective reality, are life or health threatening, defeat personally defined goals, and cause or sustain significant interpersonal or intrapersonal conflict (Maultsby, 1972). Ellis has identified 11 major irrational beliefs. They are: demand for approval, unrealistically high or perfectionistic self-expectations, blaming or punishing others for their misdeeds, catastrophizing in the face of frustration, emotional irresponsibility, anxious overconcern, problem avoidance, dependence on others, helplessness for change due to influences of the past, disturbance over others' difficulties, and seeking perfect solutions to problems. Ellis (1962) maintains that these irrational beliefs are pervasive within the social institutions of Western civilization.

Several studies have reported the existence of relationships between irrational beliefs and diagnostic categories (Laughridge, 1975; Newmark, Frerking, Cook, & Newmark, 1973), and measures of psychopathology (Goldfried & Sobocinski, 1975; Jones, 1968; Kassirer, Crisci, & Tiegerman, Note 1). In addition, changes in irrational beliefs as a function of therapeutic interventions have been reported (DiLoretto, 1971; Trexler & Karst, 1972.) Despite the supposed presence of irrational beliefs in nonclinical populations, few studies have examined their re-

lationship with nonpathological characteristics. MacDonald and Games (1972) correlated a 9-item irrational belief scale with scales from the California Psychological Inventory (CPI) (Gough, 1957). For a sample of 37 graduate students, they reported significant negative correlations between the irrational belief scale and 10 of the CPI's 18 scales: sociability, self-control and achievement via conformance, social presence, sense of well-being, tolerance, achievement via independence, intellectual efficiency, psychological-mindedness and flexibility. A major shortcoming of MacDonald and Games' study is that the scale yielded only one score of total belief irrationality, although Ellis' system contains 11 separate beliefs. Jones (1968) developed a 100-item instrument to assess individual irrational beliefs, the Irrational Beliefs Test (IBT), and found significant correlation coefficients between each of 10 irrational belief scales and one or more nonclinical scales of the 16PF (Cattell & Eber, 1961) for a sample of 427 which included college students, adult population volunteers and psychiatric inpatients.

Further evidence of irrational beliefs' relationships with nonpathological personality characteristics would contribute to a refinement of Ellis' theory since greater accuracy in predicting behavior could be made with regard to irrational beliefs. The present study represents an effort to relate individual irrational beliefs, as assessed by IBT scales, with a model of personality having demonstrated validity for predicting a variety of nonpathological behavioral characteristics (Welsh, 1972, 1975b).

### Welsh's Model

Welsh (1972, 1975b) developed a model of personality consisting of two dimensions, which is a descriptive view of the relationship between creativity and intelligence in personality functioning. One dimension is termed "origence" because it was derived from a measure which has been shown to tap originality (Barron, 1955; Barron & Welsh, 1952). Persons low on origence tend to rely on structure and routine and show preferences for simplicity, while persons high on origence are more comfortable in unstructured and open-ended situations and show preferences for complexity. The other dimension is labeled "intellectence" since it was derived from a measure of intellectual functioning (Terman's Concept Mastery Test, 1956). Low intellectent persons show preferences for literal, pragmatic and concrete approaches to problems, whereas persons high on intellectence prefer a more symbolic, abstract and generalized approach. The model was developed through item and factor analyses of objectively scored personality, interest and intellectual assessment instruments (Welsh, 1972; 1975b). Origence and intellectence are orthogonal factors which produce a four-fold typology consisting of a score for each dimension.

Type 1 persons, high on origence but low on intellectence, are characterized by an extravertive temperament and are generally attention- and approval-seeking. They are attracted to dramatic and performing arts or sales occupations, which meet their needs for action and interaction. Nonconforming ideas are often held which, along with imaginative thinking, leads to exhibitionistic behavior.

Type 2 persons, high on both dimensions, are introverted and introspective. They have strong desires for personal detachment and are often preoccupied with their own views and ideas. Their orientation is intellectual and they are attracted by the ideas of art and humanities.

Type 3 persons, low on both dimensions, appear generally extraverted in temperament and outgoing in manner. Their preference is for a well-structured existence and they show concerns over realistic problems of industry and service

occupations. Their beliefs are conventional and they have the ability to conform shown by a need for approval.

Type 4 persons, low on origence but high on intellectence, are somewhat introversive and highly objective. Their actions are highly intellectualized and rarely based on impulse or intuition. They show scientific and mathematical interests where well-established concepts are applied to logical analyses.

### Subjects

Three hundred and nineteen persons who were enrolled at either of two colleges in the southeastern United States participated in this study. They ranged in age from 16 to 57, with a mean of 23.2. There were 137 males and 182 females, of whom 278 were white and 41 were nonwhite.

### Method

#### *Irrational Beliefs Test*

The IBT consists of 100 items scored on a 5-point scale of agreement, with each of 10 beliefs defined by a scale score plus a full-scale score of total belief irrationality. There are no items for one of Ellis' original 11 beliefs, "disturbance over other's problems." Each of the 10 belief scales is defined by an orthogonal factor and is thus independent of the others. For 52 persons, Jones (1968) reported test-retest reliability coefficient ranging from .67 to .87 for scales and .92 for full-scale over 24 hours. Trexler and Karst (1973) extended stability measures over two weeks. They reported coefficients ranging from .48 to .95 for subscales and .88 for full-scale for 12 subjects. Determination and replication of a factor structure was used to establish construct validity. Concurrent validity, at least with regard to psychopathology, was derived from correlations with a 25-item self-report of maladjustment symptoms (multiple  $R$  was .72) and 16 PF clinical scales (i.e.  $C^-$ ,  $H^-$ ,  $L^+$ ,  $Q^+$ ,  $Q_3^-$ , and  $Q_4^+$ ); multiple  $R$ s ranged from .43 to .63. Further validation is provided by Trexler and Karst (1972) who reported significant changes in five IBT scales following treatment for speech anxiety, and by Goldfried and Sobocinski (1975) who reported significant correlations between IBT scales and measures of so-

cial, speech, and test anxiety.

### *Adjective Check List*

Assessment of both origence and intellectence was made through personality-type scales developed by Welsh (1975b) for the Adjective Check List (ACL) (Gough & Heilbrun, 1965). The ACL consists of 300 adjectives arranged alphabetically; subjects are instructed to check those considered self-descriptive. Gough and Heilbrun (1965) report that acquiescence and social desirability (SD) have both been adequately controlled in the ACL. Acquiescence was handled through conversion of raw scores into standard scores, while low to moderate correlation coefficients were found between ACL scales and Edwards' (1957) 39-item SD scale. Welsh's type-scales employ 87 ACL items. Standard score conversion procedures were used. Validity for the origence and intellectence scales for the ACL was established by consistently high correlations with counterpart scales of the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway & McKinley, 1967) and the Strong Vocational Interest Blank (Strong, 1959) among a group of over 1000 gifted adolescents (Welsh, 1969). Scales were cross-validated through scale correlations for samples of architects, research scientists, journalists, drama students, and college athletes (Welsh, 1975b). Further support comes from studies in which college students described the personalities of Freud and Jung (Welsh, 1975a) and Nixon and Ford (Welsh & Munger, 1976) in several areas of functioning, including origence and intellectence, using the ACL. Welsh (personal communication) found test-retest reliability coefficients of the origence and intellectence scales of the ACL to be in the high .80s after one year.

### *Procedure*

The IBT and ACL were administered to all but 45 subjects during regularly scheduled classes during the fall 1975 semester. In one of the colleges where subjects were obtained, 45 subjects were solicited during class registration and they completed instruments in a room reserved for this purpose. Directions were read aloud and subjects were told

the desired order of completion. No time limit was imposed, but most subjects finished within 30 minutes.

The 10 IBT scale scores and ACL scale scores for origence and intellectence were subjected to a canonical correlation analysis for the entire sample and for each sex. This procedure finds the linear combinations of scores from both sets of variables which have the greatest variance in common. Standardized weights are calculated so that the resulting correlations between elements in each set are maximized. These standardized weights on the canonical components are analogous to the factor loadings produced by principal components analysis. Similarly, canonical components between two sets of variables are uncorrelated with other canonical correlations between the two sets. Weights greater than .40, the commonly accepted level, were considered large enough for interpretation.

### *Results and Discussion*

Each canonical correlation analysis produced two latent roots since two variables were contained in the smaller sets. All latent roots reached acceptable levels of significance and thus indicated two ways of combining scores on both variable sets yielding reliable correlations.

For the entire sample the first combination of scores yielded a canonical correlation coefficient of .454 ( $\chi^2 = 119.51$ ,  $df = 20$ ,  $p < .001$ ), accounting for 20% of the total variance. The second combination of scores produced a canonical correlation coefficient of .376 ( $\chi^2 = 47.51$ ,  $df = 9$ ,  $p < .001$ ), explaining 14 1/2% of the remaining variance or 11 2% of the total variance. The standardized weights associated with IBT scale scores and intellectence and origence are shown in Table 1 for the first canonical variate, while weights for the second are displayed in Table 2. As may be seen in Table 1, there were three IBT scales with interpretable weights (i.e. those in excess of .40) associated with the first canonical variate. Thus, when composite scores on origence and intellectence are both high, as for type 2 persons, there is little desire for approval,

Table 1  
Standardized Weights of IBT Scale Scores and Origence and Intellectence  
for the First Latent Root

Irrational Beliefs Test		Personality Dimensions	
Scale Name	Weight	Dimension	Weight
1 Demand for Approval	-.60	Origence	.60
2 High Self-Expectations	.47	Intellectence	.78
3 Blame Proneness	-.11		
4 Frustration Reactive	.29		
5 Emotional Irresponsibility	-.10		
6 Anxious Overconcern	-.07		
7 Problem Avoidance	.48		
8 Dependency	-.25		
9 Helplessness for Change	-.20		
10 Perfectionism	-.18		

$R_c = .453, = .68, \chi^2_{20} = 119.51, p < .001.$

Table 2  
Standardized Weights of IBT Scale Scores and Origence and Intellectence  
for the Second Latent Root

Irrational Beliefs Test		Personality Dimensions	
Scale Name	Weight	Dimension	Weight
1 Demand for Approval	.36	Origence	.80
2 High Self-Expectations	-.10	Intellectence	-.63
3 Blame Proneness	.16		
4 Frustration Reactive	-.03		
5 Emotional Irresponsibility	-.28		
6 Anxious Overconcern	.28		
7 Problem Avoidance	.63		
8 Dependency	-.12		
9 Helplessness for Change	.11		
10 Perfectionism	.42		

$R_c = .376, = .86, \chi^2_{10} = 47.51, p < .001.$

expectations regarding self are high and problems and responsibilities are avoided or put off. Conversely, when composite scores on origence and intellectence are both low, as for type 3 persons, there is a strong desire for approval, self-expectations are limited and responsibilities are faced and accepted. As shown in Table 2, there were two IBT scales associated with the second canonical variate having interpretable weights. When origence is high and intellectence is low, as for type 1 persons, perfect solutions are sought, but problems and responsibilities are avoided. Thus the belief that perfect solutions must be found for problems may be implicated in the tendency to avoid problems. Since perfect solutions are rarely possible, efforts at reaching any solution may be fore-

gone. When origence is low and intellectence is high, as for type 4 persons, the converse is true. They recognize the improbability of finding perfect solutions to problems, while responsibilities and problems are accepted and faced. Perhaps the former facilitates the latter.

When males were examined separately the first combination of scores produced a canonical correlation coefficient of .437 ( $\chi^2 = 44.94, df = 20, p < .001$ ), accounting for 19.1% of the total variance. The second combination of scores yielded a canonical correlation coefficient of .353 ( $\chi^2 = 17.34, df = 9, p < .044$ ), accounting for 12.4% of the remaining variance or 10.1% of the total variance. Standardized weights associated with IBT scale scores and intellectence and origence for males



Table 3

Standardized Weights of IBT Scale Scores and Origence and Intellectence for the First Latent Root for Males

Irrational Beliefs Test		Personality Dimensions	
Scale Name	Weight	Dimension	Weight
1 Demand for Approval	-.44	Origence Intellectence	52 82
2 High Self-Expectations	.36		
3 Blame Proneness	-.38		
4 Frustration Reactive	.22		
5 Emotional Irresponsibility	-.02		
6 Anxious Overconcern	.19		
7 Problem Avoidance	.24		
8 Dependency	-.43		
9 Helplessness for Change	-.17		
10 Perfectionism	-.31		

 $R_c = .437, \Omega = .71, \chi^2_{20} = 44.94, p < .001.$ 

Table 4

Standardized Weights of IBT Scale Scores and Origence and Intellectence for the Second Latent Root for Males

Irrational Beliefs Test		Personality Dimensions	
Scale Name	Weight	Dimension	Weight
1 Demand for Approval	.45	Origence Intellectence	85 57
2 High Self-Expectations	-.36		
3 Blame Proneness	-.32		
4 Frustration Reactive	.25		
5 Emotional Irresponsibility	-.05		
6 Anxious Overconcern	-.05		
7 Problem Avoidance	.82		
8 Dependency	-.01		
9 Helplessness for Change	.08		
10 Perfectionism	.26		

 $R_c = .353, \Omega = .88, \chi^2_9 = 7.34, p < .044.$ 

are shown in Tables 3 and 4 for the first and second canonical variates, respectively. As shown in Table 3, there were two IBT scales with interpretable weights associated with the first canonical variate. Thus, when origence and intellectence are both high, as for type 2 males, there is little desire for approval and a high degree of independence. Conversely, when origence and intellectence are both low, as for type 3 males, desire for approval and dependency are high. As shown in Table 4, there were also two IBT scales with interpretable weights associated with the second canonical variate. When origence is high and intellectence is low, as for type 1 males, approval is sought and responsibilities are avoided. When origence is low and intellectence is high, as for type 4 males, there

is little desire for approval and responsibilities are faced.

When females were examined separately the first combination of scores yielded a canonical correlation coefficient of .519 ( $\chi^2 = 97.36, df = 20, p < .001$ ), accounting for 26.9% of the total variance. The second canonical correlation coefficient was .463 ( $\chi^2 = 42.38, df = 9, p < .001$ ), accounting for 21.4% of the remaining variance or 15.7% of the total variance. Tables 5 and 6 show standardized weights associated with IBT scale scores and origence and intellectence for the first and second canonical variates, respectively for females. As may be seen in Table 5, three IBT scales had interpretable weights associated with the first canonical variate. Thus, when composite scores on origence

Table 5  
Standardized Weights of IBT Scale Scores and Origence and Intellectence  
for the First Latent Root for Females

Irrational Beliefs Test		Personality Dimensions	
Scale Name	Weight	Dimension	Weight
1 Demand for Approval	-.43	Origence	.95
2 High Self-Expectations	.44		
3 Blame Proneness	.24	Intellectence	.30
4 Frustration Reactive	.26		
5 Emotional Irresponsibility	-.28		
6 Anxious Overconcern	.07		
7 Problem Avoidance	.64		
8 Dependency	-.25		
9 Helplessness for Change	-.11		
10 Perfectionism	.14		

$R_c = .519$ ,  $\Omega = .57$ ,  $\chi^2_{20} = 97.36$ ,  $p < .001$ .

Table 6  
Standardized Weights of IBT Scale Scores and Origence and Intellectence  
for the Second Latent Root for Females

Irrational Beliefs Test		Personality Dimensions	
Scale Name	Weight	Dimension	Weight
1 Demand for Approval	-.54	Origence	-.33
2 High Self-Expectations	.22		
3 Blame Proneness	-.25	Intellectence	.96
4 Frustration Reactive	.23		
5 Emotional Irresponsibility	.20		
6 Anxious Overconcern	-.41		
7 Problem Avoidance	-.06		
8 Dependency	.07		
9 Helplessness for Change	-.16		
10 Perfectionism	-.50		

$R_c = .463$ ,  $\Omega = .79$ ,  $\chi^2_{10} = 42.38$ ,  $p < .001$ .

and intellectence are both high, as for type 2 females, there is little desire for approval, expectations regarding self are high, perhaps unrealistically so, and problems and responsibilities are avoided. Conversely, when origence and intellectence are both low, as for type 3 females, approval is desired, expectations for self are limited and responsibilities are faced. Table 6 reveals that three IBT scales with interpretable weights were associated with the second canonical variate. Thus, when origence is high and intellectence is low, as for type 1 females, approval is desired, perfect solutions to problems are sought and the level of general anxiety tends to be high. Perhaps this anxiety results from seeking both approval and perfect solutions to problems. When origence is low and intellec-

tence is high, as for type 4 females, the converse is true. There is little concern with receiving approval or finding perfect solutions; worry and anxiety are also low.

These results indicated that a set of personality dimensions have empirical relationships with several IBT belief scales. They serve to extend and refine Ellis' model, as specific irrational beliefs were found to be associated with nonpathological personality characteristics. First, problem avoidance, characteristic of highly creative, low intellectent males and highly creative, high intellectent females, is not wholly related to psychopathology. As shown by other studies (e.g. Goor & Sommerfeld, 1975) highly creative persons employ different problem solving strategies than do noncreative individuals. These are

often involved and time consuming, and may appear as avoidance of the problem. Personality style, rather than emotional conflict, seems to mediate problem avoidance in highly creative persons, while problem avoidance in noncreative persons may be evidence of emotional conflict. Second, the desire for approval appears to be associated with low intellectence for both males and females regardless of creative potential. When practiced excessively approval-seeking may result in a restricted and self-defeating life style. Yet, this type of behavior may be an aid in reaching personal and vocational goals. Third, some irrational beliefs were specific to personality type/sex groups. Males low on both origence and intellectence are characterized by desires to be dependent on others. Females high on both personality dimensions have extremely high self-expectations. Females high on origence and low on intellectence exhibit high levels of anxiety and seek perfect solutions to their problems.

Ellis' proposition, that individuals are disturbed to the extent that they endorse irrational beliefs, has been taken by others (e.g. Jones, 1968) to mean that evaluation of pathology can be made solely on the basis of irrational beliefs. While an appreciation of a client's irrational cognitions may be helpful in setting treatment goals, the results of the present study suggest that the mere presence of irrational beliefs is insufficient for determination of psychopathology. In this study approximately one-third of the variance in belief irrationality was attributed to personality factors. Thus, clinicians who assess belief irrationality in clinical populations are advised to rely on other measurement tools for evaluating degree of emotional disturbance.

#### Reference Note

1. Kassinove, H., Crisci, R., & Tiegerman, S. *Developmental trends in rational thinking: Implications for rational-emotive school mental health programs*. Unpublished manuscript, 1977.

#### References

- Barron, F. The disposition toward originality. *Journal of Abnormal and Social Psychology*, 1955, 51, 478-485.
- Barron, F., & Welsh, G. S. Artistic perception as a possible factor in personality style: Its measurement by a figure preference test. *Journal of Psychology*, 1952, 33, 199-203.
- Cattell, R. B., & Eber, H. W. *The Sixteen Personality Factor Questionnaire*. Champaign, Ill.: Institute for Personality and Ability Testing, 1961.
- DiLoretto, A. *Comparative psychotherapy*. New York: Aldine-Atherton, 1971.
- Edwards, A. L. *The social desirability variable in personality assessment and research*. New York: The Dryden Press, 1957.
- Ellis, A. *Reason and emotion in psychotherapy*. New York: Lyle Stuart, 1962.
- Goldfried, M. R., & Sobocinski, D. Effect of irrational beliefs on emotional arousal. *Journal of Consulting and Clinical Psychology*, 1975, 43, 504-510.
- Goor, A., & Sommerfeld, R. F. A comparison of problem-solving processes of creative students and noncreative students. *Journal of Educational Psychology*, 1975, 67, 495-505.
- Gough, H. G. *California Psychological Inventory manual*. Palo Alto: Consulting Psychologists Press, 1957.
- Gough, H. G., & Heilbrun, A. B. *The Adjective Check List*. Palo Alto: Consulting Psychologists Press, 1965.
- Hathaway, S. R., & McKinley, J. C. *Minnesota Multiphasic Personality Inventory*, revised manual. New York: The Psychological Corporation, 1967.
- Jones, R. G. *A factored measure of Ellis' irrational belief system with personality and maladjustment correlates*. Unpublished doctoral dissertation, Texas Technological College, 1968.
- Laughridge, S. I. Differential diagnosis with a test of irrational ideation. *Rational Living*, 1975, 10(2), 20-23.
- MacDonald, A. P., & Games, R. G. Ellis' irrational values. *Rational Living*, 1972, 7(2), 25-28.
- Maulsby, M. C. *Handbook of rational self-counseling*. Lexington: University of Kentucky, 1972.
- Newmark, C. S., Fierking, R. A., Cook, L., & Newmark, I. Endorsement of Ellis' irrational beliefs as a function of psychopathology. *Journal of Clinical Psychology*, 1973, 29, 300-302.
- Strong, F. K., Jr. *Manual for the Strong Vocational Interest Blank for Men and Women (Forms M and W)*. Palo Alto: Consulting Psychologists Press, 1959.
- Trexler, L. D., & Karst, T. O. Rational-emotive therapy, placebo, and no-treatment effects on public-speaking anxiety. *Journal of Abnormal Psychology*, 1972, 79, 60-67.
- Trexler, L. D., & Karst, T. O. Further validation for a new measure of irrational cognitions. *Journal of Personality Assessment*, 1973, 37, 150-155.
- Welsh, G. S. *Gifted adolescents: A handbook of test results*. Greensboro, North Carolina: Prediction Press, 1969.

Welsh, G. S. A two-dimensional personality model for research in social science. *Institute for Research in Social Science Previews*, 1972, 19, 14-23.

Welsh, G. S. Adjective checklist descriptions of Freud and Jung. *Journal of Personality Assessment*, 1975, 39, 160-168. (a)

Welsh, G. S. *Creativity and intelligence: A personality approach*. Chapel Hill: Institute for Research in Social Science, University of North Carolina, 1975. (b)

Welsh, G. S., & Munger, F. J. Personality traits of Nixon and Ford as seen by political science students. *Institute for Research in Social Science Previews*, 1976, 21, 1-10.

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## The Mehrabian Measures of Achieving Tendency: Are Separate Male and Female Scales Necessary?

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**Summary:** The 1969 male and female Mehrabian measures of achieving tendency are among the best-known measures of resultant achievement motivation. This study addressed the question of whether unique male and female items are necessary. Pearson product-moment correlation analyses on 83 male and 184 female undergraduates showed that females' scores on the unique male items correlated positively with their scores on the original female scale, and males' scores on the unique female items correlated positively with their scores on the original male scale. Coefficient alpha reliabilities of the original male and female forms were found to be acceptable. Cluster analyses showed that the Mehrabian items cluster in very similar ways for both males and females.

Among the most well-known measures of achievement motivation are the Mehrabian 1969 male and female Measures of Achieving Tendency (Mehrabian & Bank, Note 1). These scales often have been used as an alternative to the combined use of a projective measure of achievement motivation (McClelland, Atkinson, Clark, & Lowell, 1953) and a measure of test anxiety to assess motive to avoid failure. In other words, the Mehrabian scales are thought to measure resultant achievement motivation (Atkinson, 1964). The Mehrabian items were written so that on half of the items, a positive response indicates higher motive to succeed than motive to avoid failure. A positive response on the other half of the items indicates higher motive to avoid failure than motive to achieve. On the male and the female Mehrabian instruments, agreement or disagreement with each item is recorded on a 9-point scale. The scales require very little time or effort on the part of respondents.

One of the issues associated with these instruments is that, since they measure males and females separately on two different forms, charges of sex bias could be raised. Perhaps males and females could be measured with the same scale. This issue can be addressed in two ways. One way is by examining correlations for males and females between items which are on the original male scale and those on the original female scale. A second

way is by seeing to what degree the Mehrabian items group into clusters which are similar for males and females and in what ways the respective clusters differ.

### Method

#### Subjects

Subjects were students enrolled in undergraduate psychology classes at Michigan State University, Fall, 1977. Participation in the study was voluntary, but extra credit toward the course grade was earned for participation. Of the 267 subjects, 83 were male, and 184 were female.

#### Procedure

A 39-item scale was assembled, consisting of Mehrabian's 13 items common to the original male and female forms, and the original items unique to either the male form or the female form. This scale was then reviewed by three male and three female graduate students. They were given instructions to:

1. Identify any items which could be answered only by females or only by males, and
2. Rewrite the items which are judged to be suitable only for males or females so that they can be answered by both males and females.

After considering all items on the original male and female forms, the six judges identified no items as answerable by males only and only two items as answerable by females only. Those two items, found on the female scale, were as follows:

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Table 1

Interscale Correlations Calculated for the Group of 83 Males

	1	2	3	4	5
Male	—				
Long	.93*	—			
Common	.87*	.82*	—		
Modified Unique Female	.57*	.82*	.50*		
Unique Male	.86*	.81*	.51*	.49*	—

\*  $p < .001$ .

1. If I were rooming with a number of girls and we decided to have a party, I would rather organize the party myself than have one of the others organize it.
2. I would rather that our women's group be allowed to help organize city projects than be allowed to work on the projects after they have been organized.

The judges' consensual suggestions for rewording these items to make them answerable by both males and females were as follows:

1. If I were rooming with a number of people and we decided to have a party, I would rather organize the party myself than have one of the others organize it.
2. I would rather that our group be allowed to help organize city projects than be allowed to work on the projects after they have been organized.

Subsequent to obtaining the judges' revisions, an instrument consisting of 41 randomly ordered items was constructed. Within the 41-item instrument were contained several subscales:

*Long* (for females): All 41 items minus the two rewritten items.

*Long* (for males): All 41 items minus the two female-only items.

*Male*: The original Mehrabian 26-item male scale.

*Female*: The original Mehrabian 26-item female scale.

*Common*: The 13 items common to the male and female scales.

*Unique Male*: The 13 items unique to the male scale, which the judges thought to be answerable by both males and females.

*Unique Female*: The 13 items unique to the original female scale. These included 11 items which the judges thought to be answerable by both males and females and the two items which the judges thought to be answerable by females only.

*Modified Unique Female*: The 13-item scale comprised of the 11 items from the original female form which the judges thought to be answerable by both males and females, and the two female items which were rewritten to be answerable by both males and females.

When the scale was administered to subjects, males were instructed not to answer the two items which the six judges had identified as answerable only by females. Females were allowed to answer all 41 items.

### Results

Analyses began with the calculation of Pearson product-moment correlations, for males and for females, between the several scales contained in the 41 items. Table 1 shows that for males, there are very high positive correlations between the original *Male* scale and the *Long* form, the *Common* form, and the *Unique Male* form. There is also a high moderate positive correlation between the *Long* and *Modified Unique Female* forms. Most interestingly, there is also a high moderate positive correlation between

Table 2

Interscale Correlations Calculated for the Group of 184 Females

	1	2	3	4	5
Female	—				
Long	.95*	—			
Common	.87*	.83*	—		
Unique Female	.87*	.84*	.53*		
Unique Male	.63*	.82*	.57*	.56*	

\*  $p < .001$ .

the *Unique Male* form and the *Modified Unique Female* form. This correlation is essentially the same as the correlation between the *Unique Male* form and the *Common* form, and the correlation between the *Common* form and the *Modified Unique Female* form.

Table 2 shows that for females, there are very high positive correlations between the original *Female* form and the *Long* form, the *Common* form and the *Unique Female* form. And there is a high moderate positive correlation between the *Long* and *Unique Male* forms. Particularly of interest is the high moderate positive correlation between the *Original Female* form and the *Unique Male* form. And this correlation is very similar to the correlations between the *Common* form and either the *Unique Female* form or the *Unique Male* form. Overall, the pattern of correlations shown in Tables 1 and 2 are identical, and their magnitudes are very similar.

As a second step in the analysis,  $t$  tests were calculated between males' and females' means on various subscales. On the 13 items in the *Long* form, the mean for males (.053) was not found to be significantly different from the mean for females (-.005) ( $t(265) = -.58, p < .560$ ). On the *Unique Male* form, the means of males and females (.100 and -.025, respectively) were not significantly different ( $t(265) = -1.08, p < .28$ ), nor were males' and females' means on the *Common* form, of .143 and .190, respectively,

significantly different ( $t(265) = .38, p < .706$ ). Females' mean of -.179 on the *Unique Female* form and males' mean of -.086 on the *Modified Unique Female* form were not significantly different ( $t(265) = -.76, p < .447$ ). Nor was the difference between males' mean on the *Male* form (.122) and females' mean on the *Female* form (.017) significant ( $t(265) = -.99, p < .323$ ). In other words, males' and females' means were not found to be significantly different on any subscale.

In order to describe what is measured by the items which comprise the Mehrabian scales, a factor analysis was conducted on the entire 41-item instrument minus the two items which were answerable by females only. A principle factor analysis, conducted using all 267 males and females, produced 14 factors with eigenvalues greater than 1.00, which together accounted for 62.2% of the total variance. Varimax rotations of these 14 factors produced six rotated factors with eigenvalue greater than 1.00. The first five of these factors can be characterized quite clearly. Factor I is concerned with the preference for difficult vs. easy tasks. Factor II represents the orientation toward either success or failure. Factor III is the orientation toward either personal responsibility for a task or toward dependence on others. Factor IV is the preference concerning probability of success and obtaining rewards. Factor V is the orientation toward the enjoyment of vs. skill in performance.

While this factor analysis produced a

Table 3

Coefficient Alphas for Various Subscales Calculated for Males and Females

Sex	Subscale						
	Long	Male	Female	Common	Unique Male	Modified Unique Female	Unique Female
Males	.78	.69	—	.54	.49	.57	—
Females	.78	—	.73	.61	.50	—	.53

description of the total complement of items answerable by both sexes, it did not show how the items might cluster differently for males and females. In order to determine whether different clusters of items would emerge for males and females, correlation matrices of items on males' *Long* form and females' *Long* form were used separately in a hierarchical cluster analysis program, STRUCTR (Michigan State University, Note 2).

The cluster analysis for males produced five major clusters. Cluster I appears to be concerned with success vs. failure orientation. Cluster II appears to represent preference for difficult vs. easy tasks. Cluster III seems to be generally concerned with males' preference for level of probability of success and obtaining rewards. Cluster IV consists of the notion of independence and responsibility vs. dependence. Cluster V is the orientation toward either enjoyment or skill.

The cluster analysis for females produced six clusters. The first five of these clusters were the same as the male clusters. The additional cluster for females was comprised only of the two items which seem to represent an orientation toward effort vs. an orientation toward relaxation.

Internal consistency reliabilities were computed for the respective male and female subscales. The coefficient alphas for these subscales are shown in Table 3. These coefficients range from moderate to high.

### Discussion

The essential research question in this

study was whether males' and females' resultant achievement motivation can be measured with a common instrument. That is, do males' and females' scores on their respective original Mehrabian scales correlate positively with their scores on the items originally intended for the other sex? It was found that for the sample of males, the *Male* subscale was positively and highly correlated with the *Unique Male* subscale and with the *Modified Unique Female* subscale. For females the *Female* subscale was positively correlated to the same high degree with both the *Unique Female* and the *Unique Male* subscales. This would suggest that for males, whatever is being measured by the *Male* subscale can also be reasonably well measured by the *Modified Unique Female* subscale. It would also suggest that for females, whatever is being measured by the *Female* subscale can be reasonably well measured by the *Unique Male* subscale. In short, regardless of whether items were originally intended for males or for females, they appear to be almost equally appropriate for measuring the other sex.

Whether or not males and females are being assessed on the same dimensions was also examined, by performing cluster analyses. These cluster analyses, conducted for males and females separately, produced clusters which were almost identical to the factors obtained from the factor analysis using all subjects. And almost identical clusters were obtained for males and females. The only exception was an additional cluster of two items for females which appeared to



measure their orientation toward relaxation or toward effort. In other words, when the same items were used to measure males' and females' resultant achievement motivation, both sexes were apparently measured on very similar dimensions.

Apart from the question of whether there is a need for separate male and female scales, there is the additional question of scale reliability. The internal consistency reliabilities obtained for the original *Male* and *Female* forms are very close to the level of .70 which Mehrabian and Bank (Note 1) report for these instruments. These coefficients are increased somewhat by the addition of items to make up the *Long* form, but they are probably sufficient in the original 26-item scales.

Overall, the analyses conducted in this study suggest that the original *Male* and *Female* subscales might be equally appropriate for use with either males or females. Females' achievement motives may be aroused in ways similar to males' achievement motives. This runs contrary to Maccoby and Jacklin's (1974) review of research on sex differences in achievement motivation. Since males' and females' achievement motives can apparently be measured with the same

instrument, it would be appropriate to discontinue the use of separate scales.

#### Reference Notes

1. Mehrabian, A., & Bank, L. *A manual for the Mehrabian measures of achieving tendency*. Unpublished manuscript, University of California, Los Angeles, 1975.
2. Michigan State University, Department of Computer Science. *PROGRAM STRUCTR*, 1975.

#### References

- Atkinson, J. W. *An introduction to motivation*. Princeton: Van Nostrand, 1964.
- Atkinson, J. W. The mainsprings of achievement-oriented activity. In J. W. Atkinson and J. O. Raynor (Eds.), *Motivation and achievement*. Washington, D. C.: V. H. Winston & Sons, 1974.
- Maccoby, E. E., & Jacklin, C. N. *The psychology of sex differences*. Stanford: Stanford University Press, 1974.
- McClelland, D. C., Atkinson, J. W., Clark, R. W., & Lowell, E. L. *The achievement motive*. New York: Appleton-Century-Crofts, 1953.

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## Love, Sex Roles, and Psychological Health

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**Summary:** College students were administered a series of questionnaires designed to determine the association between psychological health, involvement in a romantic relationship, and the quality of love in a relationship. As predicted, subjects who had been involved in at least one love relationship scored significantly higher on a measure of self-actualization than individuals who had never been in love. In addition, it was found that level of self-actualization directly correlated with the degree of healthy love (Maslow's B-love) among individuals who had been involved in a romantic relationship. Among individuals who had terminated their relationship, those who demonstrated higher levels of self-actualization felt less resentment toward their ex-lover. Furthermore it was discovered that females show a higher level of B-love than males, but contrary to predictions the length of a romantic relationship did not influence B-love. It is concluded that the results of this study are essentially consistent with Maslow's theories about self-actualization, hierarchy of needs, and healthy love.

Freud succinctly defined psychological health as the capacity to "love and work." Numerous investigations have explored the relationship between work and psychological health, yet little empirical research has focused on the components of love, let alone the association between love and psychological health. A germinal study by Rubin (1970) demonstrated that love can be objectively analyzed. It is the purpose of this research to begin a deeper exploration into the nature of love and its relation to psychological health.

The humanistic orientation of Maslow (1954, 1955, 1968) has wrought a different empirical approach to the study of psychological health. According to this orientation, significant knowledge can be gained by studying the healthy, as well as the neurotic members of society. In the tradition of Fromm (1947) and Horney (1950), Maslow has insisted that psychopathology represents a misdirected impulse toward growth and fulfillment. This drive toward self-fulfillment or self-expression has been termed "self-actualization."

Accordingly, healthy or self-actualizing individuals are motivated primarily

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by this drive toward self-expression. In contrast, neurotic individuals or non-self-actualizers seek only to compensate for basic, unfulfilled needs. Maslow contends that neurosis develops when an individual fails to fulfill essential psychological or emotional needs, just as the body's physiologic integrity is disrupted by a nutritional deficiency. The work of Spitz (1946) and Bowlby (1952) has tended to indicate that love is one of these basic psychologic needs and its absence can lead to psychopathology.

However, Maslow has proposed that the need for love represents not only a response to a deficiency, but that love is also a process motivated by the same impulses that lead to self-actualization. According to classic drive-reduction theory, if love were only a deficiency need, then its fulfillment would tend to result in a decrease in the drive. Yet Maslow (1954) has observed that although healthy individuals may have less need to receive love, they are more able to give it. Accordingly, Maslow has distinguished two types of love: (a) D-love (deficiency love; neurotic love) which is motivated by a lack of need gratification and tends to be selfish and possessive, and (b) B-love (love for the being of the other person) which tends to be unselfish, ecstatic, spontaneous, and contain a minimum of anxiety-hostility and emotional defensiveness. The basis for Maslow's theory stems from his clinical observations, yet there is at present

very little empirical support for his notions concerning the nature of love. Five hypotheses were formulated; the first three are based upon conclusions drawn from Maslow's writings:

1. Individuals who have been in love or are presently in love should tend to be more self-actualized. According to Maslow's (1955) hierarchy of needs, self-actualization can only be obtained once an individual has fulfilled his lower needs, e.g., physiological, safety, security, and love needs. If an individual has not fulfilled his need for love he should manifest less of a tendency toward self-actualization. Thus, once an individual recognizes that he has the capacity to love and be loved, then his strivings toward self-actualization will be advanced. Similarly, an intimate, disclosing relationship with another should tend to foster the process of self-actualization by permitting an individual to learn more about himself (e.g., Jourard, 1958, 1964).

2. Among people who have loved, self-actualizers should show a greater tendency toward B-love. This hypothesis stems from Maslow's belief that most love tends to be of the D-type, whereby an individual must seek constant validation of his self-worth (Maslow, 1954). Self-actualizers, who are already convinced of their self-worth, should be able to love more spontaneously since their love stems from an enjoyment of and respect for the other person. In contrast, the love of nonself-actualizers serves only to satisfy unfulfilled needs.

3. Among love relationships that have ended, self-actualizers should tend to have less resentment for their partners. Maslow contends that nonself-actualizers depend upon their lover for fulfillment of their basic needs to a greater extent than do self-actualizers. In the event of termination of the relationship, self-actualizers will experience quantitatively less withdrawal of need fulfillment and should therefore feel less hostility and resentment. Furthermore, self-actualizers are better able to live in the here-and-now, with less regrets about past behavior and events.

4. Intuitively one might expect that the longer two people are in contact, the more

they will come to "know" each other and drop their emotional defenses, i.e. develop the characteristics of B-love. That some type of change occurs the longer two people are together is evidenced by the findings of Dion and Dion (1975) that the duration of a romantic relationship is significantly correlated with self-reports of intensity. Thus, as the relationship progresses in time, the level of B-love might be expected to increase.

5. In terms of sex differences, the literature tends to support the notion that females might demonstrate a higher level of B-love relative to males. For instance, Tyler (1965) concludes that women are more socially empathic than men. Empirically, the work of Hattis (1965) supports the notion that women, compared to men, have conceptions of ideal married love that more closely approximate the parameters of B-love. Rubin (1970) studied romantic relationships and found that women and men may love their partners equally, but men are liked more by their partner than women are liked by theirs. Liking in this context refers to a constellation of attitudes such as respect and admiration. Although Rubin classifies these qualities as components of "liking," they also appear to be essential aspects of B-love as defined by Maslow. Overall, these findings support the observation by Kasten (1972) that due to sex-role stereotypes, women are perceived as inferior to men, and are able to command less respect and admiration from others. In other words, due to the pressure of sex-roles, men can elicit B-love behavior from women, but women are less able to elicit the same behavior from men.

Thus, it was predicted that level of self-actualization and length of relationship should vary directly with the degree of B-love in a romantic relationship, and that women should manifest a greater capacity for B-love than men. Individuals who have been involved in at least one love relationship should demonstrate a higher level of self-actualization compared to those who have never been in love. In addition, it was predicted that among individuals who have terminated their relationship, level of self-actualization should be inversely correlated with resentment.

### Method

#### Subjects

In groups of five to ten, 143 subjects enrolled in introductory psychology courses were administered a battery of questionnaires in order to fulfill course requirements. Nine subjects filled out the questionnaires incompletely or incorrectly and were removed from the sample. Another eight subjects left more than 15 answers blank on the Personal Orientation Inventory (POI), and these subjects were also removed from the sample in keeping with the recommendations of the test's author (Shostrom, 1966). Thus, the final sample consisted of 126 subjects.

#### Procedure

Subjects were invited to participate in an experiment entitled "Personal Orientation." Each subject was given a packet of questionnaires with self-explanatory instructions, and the experimenter was present in order to answer any questions. The battery of questionnaires included the POI, a questionnaire requesting general information about love relationships, and an inventory designed to assess B-love. Subjects were not asked to place their names on the questionnaires and were given assurance of confidentiality.

#### Measures

**Self-actualization.** The POI, based upon the theoretical formulations of Maslow, Riesman, May, and Perls, is a standardized inventory which measures self-actualization (Shostrom, 1965, 1966). The POI consists of 150 two-choice items, and the respondent is asked to choose the statement he believes most true about himself. For example, the individual is asked to choose between a) I only feel free to express warm feelings to my friends, and b) I feel free to express both warm and hostile feelings to my friends.

The POI has been used in over 100 research studies. Shostrom (1965) has shown that the inventory effectively discriminated between clinically judged self-actualized and nonself-actualized groups. The concurrent validity of the POI has been supported by a number of

studies (Fox, Knapp, & Michael, 1968; Hekmat & Theiss, 1971; McClain, 1970; Shostrom, 1965, Shostrom & Knapp, 1966; Zacaria & Weir, 1967), as well as resistance to faking (Shostrom, 1966). Although the inventory consists of 12 subscales, Damm (1969) has found that one score derived from the equal weighting of each item provides a reliable measure of self-actualization.

**Involvement in a love relationship.** After considering a number of alternatives, it was decided to use subjective criteria to assess whether or not the respondent had been "in love." Each subject was asked to respond to the following question: "In the last three years how many romantic relationships have you had in which you felt you were really in love?" Subjects who answered with a zero were classified as "nonlovers," and all others were categorized as "lovers." The specification that the relationship be limited to the past three years represents a somewhat arbitrary decision designed to maximize the number of designated "love relationships," and yet minimize the distortions produced by time. A more detailed analysis of these temporal factors was prevented due to limitations on subject allocations. Ninety-three of the 126 subjects had been involved in at least one relationship; frequencies broken down by sex are presented in Table 1.

Table 1  
Cell Means for Self-actualization as a  
Function of Involvement in a  
Love Relationship and Sex

Sex	Involvement in a Love Relationship	
	Lovers	Nonlovers
Females	100.82 ( <i>n</i> = 49)	92.33 ( <i>n</i> = 15)
Males	100.48 ( <i>n</i> = 44)	95.22 ( <i>n</i> = 18)

*Note:* The higher the score the higher the level of self-actualization.



Table 2

Sixteen Items Used as an Indicator of B-love

1. I loved \_\_\_\_\_ to my fullest capacity.
2. I found it easy to love \_\_\_\_\_.
3. My feelings for \_\_\_\_\_ were greatest when I first realized that I loved him (her).
4. I could completely be myself when I was alone with \_\_\_\_\_.
5. I sometimes felt resentful about fulfilling my obligations to \_\_\_\_\_.
6. I felt completely free to express my anger towards \_\_\_\_\_.
7. I often felt that I knew what was best for \_\_\_\_\_ better than he (she) did.
8. I was never dishonest with \_\_\_\_\_.
9. My love for \_\_\_\_\_ was an extremely enjoyable and ecstatic experience.
10. I loved \_\_\_\_\_ so much that I often felt jealous.
11. I felt proud of \_\_\_\_\_ whenever he (she) achieved success.
12. My love was so great that I saw no faults in \_\_\_\_\_.
13. There were certain things about myself that I chose not to tell \_\_\_\_\_.
14. When \_\_\_\_\_ was disappointed about something I felt disappointment, too.
15. I never felt embarrassed about the way I acted in front of \_\_\_\_\_.
16. When I was alone with \_\_\_\_\_, I felt completely free to express whatever was on my mind.

*Termination of relationship.* Subjects who were involved in at least one relationship were asked to consider the person whom they had loved the most and whether or not this relationship was still continuing. Those who were not presently involved were classified as "terminators." Twenty-eight of 49 females and 25 of 44 males were classified as nonterminators.

*Length of relationship.* Subjects were asked to indicate how long their relationship had lasted, and all responses were converted into months. The mean length for the 40 terminators and 53 nonterminators was 18.4 months and 19.6 months, respectively.

*B-love.* Based upon Maslow's observations (1955, 1968) of self-actualized love, 16 items were composed as an indicator of degree of B-love. The items are presented in Table 2. Subjects involved in at least one relationship were then asked to consider the person they had loved the most; they were asked to respond to each item of the questionnaire

on a 9-point scale, with 1 indicating complete agreement and 9 indicating complete disagreement. Agreement with items 1, 2, 4, 6, 8, 9, 11, 14, 15, and 16 and disagreement with items 3, 5, 7, 10, 12, and 13 is in the direction of self-actualized love. The final measure of B-love consisted of the sum total of all of the 16 items with the latter 6 appropriately transformed (by subtracting the raw score from 10) the final questionnaire had a mean of 54.09 and a standard deviation of 16.74 ( $n = 93$ ). Note that the questionnaire is scored so that a low score indicates a high level of B-love. Using the Spearman-Brown transformation (Winer, 1971) the questionnaire demonstrated an odd-even reliability of .80 ( $93 df, p < .001$ ).

*Resentment.* The 40 subjects classified as terminators (i.e., no longer involved in the relationship) were asked to indicate on a 9-point scale ranging from NOT AT ALL to STRONGLY their degree of resentment for their partner. The lower the score, the less the degree of resentment. The mean level of resentment was 1.90.

with a standard deviation of 1.68.

*Time since termination.* Subjects were asked to specify when their relationship began. Along with length of relationship data, the length of time since termination was calculated for the 40 terminators.

### Results

Among individuals who had been involved in at least one relationship, a preliminary analysis of variance was performed to discern whether or not non-terminators differed significantly from terminators on the variable of self-actualization. Sex, termination of relationship, and their interaction did not significantly affect level of self-actualization (all  $F_s < 1$ ). Accordingly, terminators and nonterminators were not separated when lovers were compared to nonlovers on the self-actualization variable.

A two-way analysis of variance was performed on sex and "involvement in a love relationship," with self-actualization as the dependent variable. Cell means and  $n$ s are presented in Table 1. "Involvement is a love relationship" produced a significant main effect ( $F = 8.47, 1, 122 \text{ df}, p < .005$ ), but the effect of sex and its interaction with "involvement" were nonsignificant (both  $F_s < 1$ ). A comparison of the means indicates that lovers are significantly more self-actualized than nonlovers (100.66 vs. 93.91), as predicted by our first hypothesis. Thus, involvement in a love relationship is significantly correlated with higher levels of self-actualization, but it is not affected by termination of the relationship.

A  $\chi^2$  performed on cell frequencies indicates that males and females were involved in at least one love relationship in equal proportions ( $\chi^2 < 1$ ), a finding contrary to that of Dion and Dion (1973) who found that a significantly higher percentage of college females were involved in at least one relationship. However, a replication by Dion and Dion (1975) failed to reproduce their original results.

The effect of sex, self-actualization, and "length of relationship" on B-love was studied through the use of multiple regression analysis (Cohen, 1968; Kerlinger & Pedhazur, 1973). It was felt that

a statistical procedure of this type could most effectively utilize information inherent in the data, in contrast to a factorial analysis of variance which would require that the variables self-actualization and length of relationship (both continuous variables) be artificially partitioned into categories. The output from a regression analysis can be interpreted in a manner analogous to a factorial analysis of variance, with corresponding sums of squares, mean squares, and  $F$  ratios. Sex, self-actualization, termination of relationship, length of relationship, and the appropriate interaction terms were entered into the regression equation with B-love as the dependent variable. The analysis of variance is presented in Table 3.

Termination of relationship has a significant effect upon level of B-love ( $F = 4.53, 1, 77 \text{ df}; p < .05$ ). Individuals still involved in a relationship showed more B-love than those who had terminated (55.55 vs. 59.88). This finding was not predicted, and will be discussed below.

The effect of self-actualization on B-love was significant ( $F = 8.09, 1, 77 \text{ df}; p < .01$ ), with self-actualization correlating .27 with B-love. As predicted by our second hypothesis, higher levels of self-actualization are related to higher levels of B-love.

As predicted, sex produced a highly significant effect on B-love ( $F = 24.65, 1, 77 \text{ df}; p < .001$ ) with females showing a greater level of B-love than males (50.47 vs. 65.14; the lower the score the higher the level of B-love). To further elucidate this relationship, the male and female populations were analyzed separately. With the other covariates removed, the regression coefficient between self-actualization and B-love is .18 ( $F = 1.35, 1, 42 \text{ df}; p < .10$ ) for males and .45 ( $F = 11.78, 1, 47 \text{ df}; p < .005$ ) for females. Evidently there is a tendency for self-actualization to be more highly correlated with B-love for females, but this trend does not reach statistical significance (as indicated by the interaction term between sex and self-actualization in the overall regression analysis;  $F = 3.60, 1, 77 \text{ df}; p < .07$ ). The relationship between sex, self-actualization, and B-love will be dealt with

Table 3

Analysis of Variance for B-love as a Function of  
Termination of Relationship, Length of Relationship, Sex, and Self-actualization

Source	df	Sums of Squares	Mean Square	F
Termination (A)	1	891.53	891.53	4.53*
Length (B)	1	155.89	155.89	.79
Sex (C)	1	4850.68	4850.68	24.65**
Self-actualization (D)	1	1592.06	1592.06	8.09***
A x B	1	1.10	1.10	.01
A x C	1	5.50	5.50	.03
A x D	1	552.22	552.22	2.81
B x C	1	0.00	0.00	0.00
B x D	1	14.92	14.92	.08
C x D	1	707.52	707.52	3.60
A x B x C	1	3.75	3.75	.02
A x B x D	1	640.69	640.69	3.26
A x C x D	1	528.56	528.56	2.69
B x C x D	1	210.46	210.46	1.07
A x B x C x D	1	485.54	485.54	2.47
Error	77	15150.89	196.76	

Note:  $n = 93$ ; see text for frequency breakdown by sex and termination of relationship.

\*  $p < .05$ .

\*\*  $p < .001$ .

\*\*\*  $p < .01$ .

further below.

Contrary to predictions, length of relationship does not affect level of B-love ( $F < 1$ ); the corresponding correlation coefficient is .08. This association is absent in both terminated and nonterminated relationships, since the interaction between length of relationship and termination of relationship ( $A \times B$ ) is nonsignificant ( $F < 1$ ). This result is essentially consistent with Rubin (1970) who found no correlation among men and only a slight correlation among women between length of a dating relationship and a measure of romantic love.

Finally, the effect of self-actualiza-

tion upon resentment was studied through a separate regression analysis since the resentment variable involved a separate measure. Self-actualization, sex, time since termination of relationship, and the appropriate interaction terms were entered into a regression equation with resentment as the dependent variable (See Table 4). Level of self-actualization has a significant effect ( $F = 6.36, 1, 32, df, p < .05$ ) upon the degree of resentment an individual felt for his/her partner after the relationship had ended. Self-actualization correlated  $-.40$  with resentment, which indicates that self-actualizers show less resentment for their partner after the

Table 4

Analysis of Variance for Resentment as a  
Function of Self-actualization, Time Since Termination of Relationship, and Sex

Source	df	Sums of Squares	Mean Square	F
Self-actualization (A)	1	17.62	17.62	6.36*
Time since termination (B)	1	.18	.18	.06
Sex (C)	1	.09	.09	.03
A x B	1	1.36	1.36	.49
A x C	1	.03	.03	.01
B x C	1	.02	.02	.01
A x B x C	1	1.59	1.59	.57
Error	32	88.71	2.77	

Note:  $n = 40$ .

\*  $p < .05$ .

relationship has ended. Neither sex, time since termination of the relationship, nor any of the interaction terms produced significant effects (all  $F_s < 1$ ). Thus males and females show equal levels of resentment, and resentment does not decrease significantly over the time intervals measured in this study (less than three years).

### Discussion

Four of the original five hypotheses are supported, and also some unanticipated findings were uncovered. As predicted, the involvement in a love relationship is associated with the attainment of higher levels of self-actualization. This result lends itself to two interpretations. It is possible that self-actualizers tend to fall in love more readily than do nonself-actualizers. For instance, the qualities associated with self-actualization (e.g. spontaneity, self-confidence, lack of defensiveness) may enhance the probability that an individual will form a love relationship. This interpretation is consistent with the finding by Dion and Dion (1975) that high self-esteem individuals who were low on the trait of defensiveness experienced romantic love more frequently than low self-esteem individuals (regardless of level of defensiveness).

Thus, psychologically healthy individuals may be more capable of engaging others in romantic involvement. On the other hand, as we originally postulated, involvement in a love relationship perhaps facilitates the attainment of self-actualization. Either of these interpretations is consistent with Maslow's theories. Indeed, both of these processes may be occurring, i.e., self-actualizers are better able to find a person they can love, and the involvement in a love relationship promotes the attainment of self-actualization.

Contrary to predictions, the length of a love relationship does not affect the level of B-love. The absence of a statistical interaction between length and termination of relationship indicates that this effect is absent in both terminated and nonterminated relationships. These results are somewhat surprising; one would expect that as a relationship progresses in time, the participants would tend to drop their emotional defenses, become more spontaneous, and generally approach the ideal of a B-love relationship. Our negative finding may be based upon the fact that the data for length of relationship are skewed. The sample we studied was asked if they had



ever been involved in a relationship in which they felt they were "really in love." Except for the occasional occurrence of "love at first sight," an individual probably does not come to the conclusion that he is in love until he has known his partner for a certain length of time. It is reasonable to hypothesize that a number of important processes are occurring during the stage in which the participants are preparing to label themselves "in love." During this pre-love stage, the participants perhaps determine the level of B-love which will characterize their relationship for the near future. "Near" future is emphasized since changes in the level of B-love may occur after a couple has been together many years. The sample was also skewed in the sense that less than 10% of the relationships had lasted more than three years at the time of the experiment. (It is also important to recognize that the truncation of a variable has the statistical effect of attenuating the correlation coefficient.)

An effect evidently uninfluenced by sex roles involves the finding that self-actualizers are less resentful of their partner after the relationship has ended, relative to nonself-actualizers. This correlation supports our original hypothesis that self-actualizers show a minimum of hostility toward their partner and can live in the present with fewer regrets about past behavior.

The data specifying the relationship between self-actualization and B-love supports our original hypothesis. The greater an individual's level of self-actualization, the more likely he will be able to offer B-love. In addition it was found that women, relative to men, show a higher level of B-love, even though both groups are at the same level of self-actualization. This conclusion is consistent with the finding by Dion and Dion (1975) that females demonstrate attitudes of greater love, liking, and trust and experience more euphoria than men in love relationships. Apparently sex-role behavior is an important governor of an individual's capacity to express B-love, a finding consistent with the conclusion by Kagan and Moss (1962) that sex-role identification is an important determinant of behavior in general.

A further analysis of these sex-role stereotypes may serve to explain why females are better able to express B-love. After studying the behavior of small groups, Bales (1958) concludes that women tend to be social-emotional specialists whereas men are essentially task-oriented. In addition, Rubin (1970) found that women tend to love other women much more than men tend to love other men. Thus, females might be better at loving because they are more experienced. In addition, the male stereotypical sex-role prohibits a high level of emotional expression (Balswick & Peek, 1971). The expectation that males remain inexpressive undoubtedly hinders their capacity for B-love. Implicit in Maslow's (1954) as well as Jourard's (1958) characterization of healthy love is the ability to drop emotional defenses. If males have been conditioned to be chronically defensive, then they are less likely to offer a high level of B-love. This is in contradiction to Maslow's (1968) observations that self-actualizers are able to transcend cultural prescriptions for behavior. The ability to offer spontaneous, unselfish love appears to be highly influenced by cultural expectations of behavior.

Finally, it was observed that individuals presently involved in a relationship manifested a higher level of B-love than those subjects who had ended their relationship. There are at least two (not mutually exclusive) interpretations: (a) relationships containing a high level of B-love may be more likely to survive. Although the group of nonterminators probably contains individuals who will eventually terminate, the effect of "successful" relationships may statistically outweigh the effect of the unsuccessful relationships in this group, and (b) according to the principles of cognitive dissonance, an individual should have a more positive perception of an ongoing relationship than one which has been terminated. By deemphasizing the positive aspects of a past relationship an individual can justify its termination.

In conclusion, as was noted previously, the empirical study of love is in its incipient stages. Yet knowledge about love and its impact on psychological health is of fundamental importance. Beginning with

Freud, it has been suspected that behavior in the name of love may represent an expression of neurotic tendencies, with deleterious effects on both the giver and receiver. This research has attempted to delineate the association between love and psychological health, and some of the factors which affect the quality of love in a relationship.

### References

- Bales, R. F. Task roles and social roles in problem-solving groups. In T. M. Newcomb, E. Maccoby, & E. L. Huntley (Eds.), *Readings in social psychology* (3rd ed.). New York: Holt, Rinehart, & Winston, 1958.
- Balswick, J. O., & Peek, C. W. The inexpressive male: A tragedy of American society. In A. Skolnick & J. H. Skolnick (Eds.), *Intimacy, family, and society*. Boston: Little, Brown, 1974.
- Bowlby, J. *Maternal care and mental health*. Geneva: World Health Organization, 1952.
- Cohen, J. Multiple regression as a general data-analytic system. *Psychological Bulletin*, 1968, 70, 426-443.
- Damm, V. J. Overall measures of self-actualization derived from the Personal Orientation Inventory. *Educational and Psychological Measurement*, 1969, 29, 977-981.
- Dion, K. L., & Dion, K. K. Correlates of romantic love. *Journal of Consulting and Clinical Psychology*, 1973, 42, 51-56.
- Dion, K. L., & Dion, K. K. Self-esteem and romantic love. *Journal of Personality*, 1975, 43, 39-57.
- Fox, J., Knapp, R. R., & Michael, W. B. Assessment of self-actualization of psychiatric patients: Validity of the Personal Orientation Inventory. *Educational and Psychological Measurement*, 1968, 28, 565-569.
- Fromm, E. *Man for himself*. New York: Rinehart, 1947.
- Harris, R. Love feelings in courtship couples: An analysis. *Journal of Humanistic Psychology*, 1965, 5, 22-53.
- Hekmat, H., & Theiss, M. Self-actualization and modification of affective self-disclosures during a social conditioning interview. *Journal of Counseling Psychology*, 1971, 18, 101-105.
- Horney, K. *Neurosis and human growth*. New York: W. W. Norton, 1950.
- Jourard, S. *Personal adjustment*. New York: Macmillan, 1958.
- Jorard, S. *The transparent self*. Princeton: D. Van Nostrand, 1964.
- Kagan, J., & Moss, H. A. *Birth to maturity: A study in psychological development*. New York: Wiley, 1962.
- Kasten, K. Toward a psychology of being: A masculine mystique. *Journal of Humanistic Psychology*, 1972, 12, 23-43.
- Kerlinger, F. N., & Pedhazur, E. J. *Multiple regression in behavioral research*. New York: Holt, Rinehart, & Winston, 1973.
- McClain, E. W. Personal growth for teachers in training through self-study. *Journal of Teacher Education*, 1970, 21, 372-377.
- Maslow, A. H. *Motivation and personality*. New York: Harper, 1954.
- Maslow, A. H. Deficiency motivation and growth motivation. In M. R. Jones (Ed.), *Nebraska symposium on motivation*. Lincoln: Nebraska Press, 1955.
- Maslow, A. H. *Toward a psychology of being*. New York: Van Nostrand, 1968.
- Rubin, I. Measurement of romantic love. *Journal of Personality and Social Psychology*, 1970, 16, 265-273.
- Shostrom, E. L. A test for the measurement of self-actualization. *Educational and Psychological Measurement*, 1965, 24, 207-218.
- Shostrom, E. L. *Manual for the Personal Orientation Inventory*. San Diego, Calif.: Educational and Industrial Testing Service, 1966.
- Shostrom, E. L., & Knapp, R. R. The relationship of a measure of self-actualization (POI) to a measure of pathology (MMPI) and to therapeutic growth. *American Journal of Psychotherapy*, 1966, 20, 193-202.
- Spitz, R. Anaclitic depression. *Psychoanalytic Study of the Child*, 1946, 2, 313-342.
- Tyler, L. E. *The psychology of human differences*. New York: Appleton-Century-Crofts, 1965.
- Winer, B. J. *Statistical principles of experimental design* (2nd ed.). New York: McGraw-Hill, 1971.
- Zacaria, J. S., & Weir, W. R. A comparison of alcoholics and selected samples of nonalcoholics in terms of a positive concept of mental health. *Journal of Social Psychology*, 1967, 71, 151-157.

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## The Mosher Sex Guilt Scale and the College Population: A Methodological Note

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During the past decade our culture has witnessed a substantial change in attitude about sexual expression. This transformation is evidenced in the prevalence of contraceptive devices, the availability of abortions, the restructuring of marital relationships, the increasing acceptability of sexual encounters outside the context of marriage, the onset of sexual intercourse, and so on. These changes have also had several important consequences for research on human sexual behavior. Most notably, our college samples are more sexually experienced and manifest fewer sexually restrictive attitudes.

Scores on the Mosher sex guilt scale (Mosher, 1966) are also being affected by this changing social climate. Three recent investigations (Abramson, 1976; Abramson, Greenberg, & Tice, 1977; Abramson & Handschumacher, 1978) are cases in point. Abramson (1976) failed to find a significant relationship between sex guilt and sex experience; Abramson, Greenberg, and Tice (1977) were unable, using four separate samples, to replicate the finding that sex guilt inhibited retention of sexually related material; and Abramson and Handschumacher (1978) discovered a reversed relationship to a previously well-established finding—high sex guilt males gave more sexual responses to double-entendre words than low sex guilt males. However, upon closer scrutiny it was discovered that the Mosher sex guilt scores for all of these samples were significantly skewed toward the permissive end of the scale. That these non-significant and contradictory findings were the result of methodological rather than conceptual issues was suggested by Abramson (1976) who demonstrated that ipsatization, a transformation which extended the range of scores (Broverman, 1962), effected a substantial increase in a previously non-significant correlation coefficient (raw

scores,  $r = -.28$ ; ipsatized scores,  $r = -.56$ ,  $p < .001$ ) between sex guilt and sex experience, in a direction which was more theoretically consistent with Mosher's conceptions of sex guilt. Combined, these studies suggest that researchers should routinely test the distribution of their sex guilt scores for skewness and degree of kurtosis (McNemar, 1955). Furthermore, where skewed distributions are obtained, researchers should normalize raw scale scores using procedures like ipsatization, percentile ranks, or standard scores so that their results are not confounded by truncated distributions.

### References

- Abramson, P. R., Greenberg, J. H., & Tice, K. Sex guilt and the retention of sexual related material. Unpublished manuscript, 1977.
- Abramson, P. R. Implications of ipsative measurement for inferences concerning the cross-situational consistency in the study of human sexual behavior. Unpublished doctoral dissertation, University of Connecticut, 1976.
- Abramson, P. R., & Handschumacher, I. Experimenter effects on responses to double-entendre words: Some additional considerations for sex research. *Journal of Personality Assessment* 1978, 42, 592-596.
- Broverman, D. M. Normative and ipsative measurement in psychology. *Psychological Review*, 1962, 69, 295-305.
- McNemar, Q. *Psychological statistics*. New York: Wiley, 1955.
- Mosher, D. I. The development and multitrait-multimethod matrix analysis of three measures of three aspects of guilt. *Journal of Consulting Psychology*, 1966, 30, 25-29.

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## The Discriminative Validity of the Whitaker Index of Schizophrenic Thinking

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**Summary:** An attempt was made to assess the discriminative validity of the WIST with a sample of psychiatric inpatients. Through the use of a standardized structured interview and a diagnostic system for schizophrenia based on the use of discriminant function analysis with nonpathognomic symptom combinations, a reliable and valid system was used to establish the criterion diagnosis. Approximately 63% of patients reliably diagnosed as schizophrenic were detected via the WIST while only 14% of nonschizophrenic patients scored in the schizophrenic range on the WIST. The assets and liabilities of using the WIST to diagnose schizophrenia are discussed.

Whitaker (1970) has conceptualized schizophrenic thinking in a manner that conforms to the most basic and prevalent uses of the term. Schizophrenic thinking is defined as being illogical, impaired, and unwitting. Detailed definitions of each characteristic are available elsewhere (Whitaker, 1973). In order to provide an objective assessment of his conceptualization of schizophrenic thinking, Whitaker developed the Whitaker Index of Schizophrenic Thinking (WIST) (Whitaker, 1973).

The first criteria used in the development and validation of early versions of the WIST were Rorschach and Holtzman Inkblot Technique pathognomonic verbalization scores. These criteria proved fairly reliable and useful but their validity was questionable with subjects who gave relatively few responses (Whitaker, 1965). To provide a more stable criterion measure, an equally weighted combination of Rorschach and Holtzman pathognomonic verbalization scores were calculated for each of 43 hospitalized psychiatric patients, representing a broad range of disorders. The correlation between this criterion measure and WIST was .59, ( $p \leq .05$ ).

A second validation study (Whitaker, 1973) compared the scores on a revised Form A of the WIST with Rorschach pathognomonic verbalization scores. The subjects in this study were 45 patients from a private psychiatric setting. Using Rorschach pathognomonic verbalization scores as a criterion for categorizing the patients as schizophrenic versus nonschizophrenic, the WIST correctly identified

84% of the sample.

A second type of validating criterion used the judgment of psychologists and psychiatrists who ranked all the WIST answers to each test item in order of their logical appropriateness. On the basis of these ratings, further revisions were made of the test form. All of the answers on the new form then were rated by a second group of psychiatrists and psychologists. The degree of agreement among raters was high for both groups but, as expected, higher on the revised forms. Also, the percentage of agreement between the raters and the WIST scoring was higher on the revised forms. The final stage of WIST validation consisted of comparing WIST scores against reliable clinical ratings of schizophrenic reactions made by experienced psychiatrists and psychologists. Unfortunately, Whitaker (1973) did not provide data to substantiate these latter validation stages but only mentions them briefly in the test manual.

It is believed that the WIST assesses the ability to think logically and to avoid irrelevant or distracting associations (Zimet & Fishman, 1970). Information bearing on the validity, reliability, degree of internal consistency and correlation with other personality tests, such as the Rorschach and MMPI, are available elsewhere (Albott & Gilbert, 1973; Fishkin, Lovallo, & Pishkin, 1977; Whitaker, 1973).

Based on these few studies, the WIST apparently has been accepted as a valid and reliable measure of schizophrenic thinking and currently is being used in several laboratories as a device to subdivide schizophrenic patients into more



homogeneous groups (e.g., Bourne, Justesen, Abraham, Beeker, Braucht, Whitaker, & Yaroush, 1977; Pishkin, Lovallo, Bourne, & Lenk, in press; Pishkin, Lovallo, Lenk, & Bourne, 1977).

One critical error source overlooked in the developmental and the subsequent investigations on the WIST concerned the validity and reliability of the criterion diagnosis. Feighner, Robins, and Guze (1972) discussed the difficulties involved in arriving at a research definition of schizophrenia, while the unreliability of the psychiatric diagnosis of schizophrenic has been documented thoroughly (Cancro, 1970; Jackson, 1970). The lack of precise and uniformly applied diagnostic criteria for schizophrenia significantly impedes efforts to develop and validate assessment procedures for separating schizophrenic and nonschizophrenic groups (Goldfried, Stricker, & Weiner, 1971).

Investigators using the WIST reported that either the patient was "diagnosed clinically" as schizophrenic (e.g., Bourne et al., 1977) or the diagnosis was inferred from Rorschach pathognomic verbalization scores (e.g., Whitaker, 1973). The former approach was based on unreliable subjective interview data and often used Bleuler's (1908, 1950) four general primary symptoms of schizophrenia as the primary diagnostic criteria. However, this system has been considered inadequate since it uses imprecise terminology, mixes theoretical concepts with observations and because such symptoms also are prevalent to some degree in other physical and psychiatric disorders (Taylor & Heisler, 1971). While initially considered to have some basic validity and explanatory power, Bleuler's concepts now receive little support (Fitzgibbons & Shearn, 1972). The latter approach using the Rorschach while yielding replicable differentiations between diagnostic groups, was usually without sufficiently precise discriminations to justify its application to any single patient in a diagnostic situation (Goldfried, Stricker, & Weiner, 1971).

The present investigation attempted to assess the discriminative validity of the WIST with a sample of psychiatric inpatients. Such a study seems necessary be-

fore this instrument can be used in conjunction with diagnostic decisions. An attempt was made to eliminate methodological problems present in prior research with the WIST.

### Method

#### Subjects

The sample consisted of 227 female and 146 male admissions to either a private or university psychiatric inpatient facility. The subjects were between the ages of 18 and 67 years ( $M = 35.2$ ) and their level of education ranged from 3 to 22 years ( $M = 10.1$ ). First admissions to a psychiatric hospital comprised 73% of the sample. Although there were no significant educational differences as a function of sex, the female patients were significantly older ( $p \leq .05$ ). Twelve patients signed out against medical advice before being tested while 22 patients would not cooperate fully and thus were excluded from the study. An attempt was made to follow Shearn and Whitaker's (1969) general criteria for selecting subjects in studies of schizophrenia.

#### Apparatus

*The Whitaker Index of Schizophrenic Thinking.* The WIST contains two forms, A and B, which differ only in the items presented. Both contain 25 multiple choice items distributed among three subtests and can be administered and scored within 20 minutes. These three subtests include Similarities, Word Pairs, and New Inventions. The Similarities and Word Pairs subtests contain nine items each while the New Invention subtest contains seven items. A brief paragraph of explanation and a sample item precede each test. Each item of both forms presents a stimulus word, phrase or sentence with five randomly arranged alternative answers. The printed directions encourage the subject to make a definite independent commitment to one of the answers without discussing the content of the answers with the examiner. The incorrect answers are, in order of increasing incorrectness or illogicality, a loose association, a reference association, a slang association and a nonsense association.

In contrast to their identical structure and directions, forms A and B differ in

the verbal content of their items. Form A items are saturated with inherently anxiety-provoking words, phrases and sentences while form B, which is structurally identical, contains only neutral verbal content. All of the verbal content in both forms can be understood readily by anyone with an IQ of at least 80 and the equivalent of approximately an eighth grade education.

During the administration, the examiner must insure that the subject correctly completes the example item for the first subtest, Similarities. If the subject either fails to respond or provides an incorrect answer to this example item, he is requested to reread the directions for the subtest. If the subject then will not or cannot answer this example question correctly, testing is discontinued since it is unlikely that the subject could provide a valid protocol. Conversation between examiner and subject during testing should be avoided. Following administration of the test, there is an inquiry phase which enables the examiner to determine whether the subject has the ability to correct his wrong answers. Frequently, a subject either persists in adhering to his original incorrect answer or provides another incorrect answer, showing that a specific test item is especially difficult for him. Such manifestations of inability, together with the dynamic connotations of the particular wrong answer provided by the subject are valuable in elucidating the nature of the thought disorder (Whitaker, 1973).

The WIST yields three scores. The first, an error source, is determined by summing weighted error scores across all items. Weightings are determined by the degree of illogicality of the incorrect responses. The second measure, a time score, is the number of minutes required to give the initial set of answers. The third measure, the Index Score, is the sum of the other two scores. Whitaker (1973) emphasized that the Index is the most efficient discriminator of schizophrenics from non-schizophrenics and advocates this approach. However, only a small gain of approximately 5% in classificatory efficiency occurred when using the Index instead of the error score, and this was obtained at the inconvenience of individual timing.

Also, many patients with depressive symptoms may obtain Index scores which are spuriously elevated due to high time scores (e.g., unipolar depressions with psychomotor retardation). Thus, the recommended administration and scoring procedure for the Index makes it difficult to use the WIST for group testing. A detailed explanation of the structure, administration, scoring and norms of the test is available elsewhere (Whitaker, 1973).

*The Mental Status Schedule.* The Mental Status Schedule (MSS) was developed by Spitzer, Burdock, and Hardesty (1964) to provide a standardized interview to assess the major dimensions of the mental status in which the content and order of questions are fixed. The MSS contains an interview schedule and a matching inventory of 248 dichotomous items descriptive of small units of psychopathological behavior which the interviewer evaluates as true or false. The interview schedule is a series of 82 questions arranged in a definite sequence to provide a natural progression of topics which cover a wide range of psychopathology. Supplementary questions are provided to clarify or probe into the areas where the patient's responses seem incomplete. While standardized, the procedure has enough flexibility so that when properly administered it seems like a typical clinical interview (Spitzer, Fleiss, Kernohan, Lee, & Baldwin, 1965). A detailed description of the MSS as well as information bearing on the reliability, validity, and administration of this instrument can be found elsewhere (Spitzer, Fleiss, Endicott, & Cohen, 1967).

The advantages of the MSS over other commonly used assessment procedures included the incorporation of a standardized interview schedule to reduce inconsistency and oversight due to variability in interviewing technique and coverage of psychopathology, awareness of what questions were asked to provide a framework within which the patient's responses could be understood by others not present at the interview, and the use of a score which served simultaneously as a permanent clinical record and as a form for automated data processing. The use of the same interview schedule for all patients has the research advantage that differ-

Table 1

Coefficients of the Discriminant Functions  
for the Four Symptoms Used to  
Classify Schizophrenia

Symptom	Schizophrenic	Non-schizophrenic
Loose associations	6.85035	.65298
Autism	4.69684	.45912
Loss of ego boundaries	4.94757	1.88828
Delusions	4.25569	.52454
Constant	-8.81648	-1.06585

ences observed among patients tended to reflect actual differences rather than artifacts caused by differences in areas of psychopathology explored or interviewing techniques used.

*Newmark's Symptom Assessment Questionnaire*, Newmark, Raft, Toomey, Hunter, and Mazzaglia (1975) used a discriminant function analyses approach to assess whether any major psychiatric symptoms ( $\phi \geq .50$ , frequency at least 50%) if combined in clusters were highly discriminating of schizophrenia. Combinations of the discriminant values of six major symptoms (loose associations, autism, social withdrawal, loss of ego boundaries, delusions, and concrete thinking) were varied until almost total diagnostic classification accuracy was obtained. Using the coefficients of the discriminant functions of four of these six major symptoms to predict schizophrenia (i.e., loose associations, autism, loss of ego boundaries, and delusions) correctly classified 97% of the total sample of 272 psychiatric inpatients. The coefficients of the discriminant functions for these four symptoms used to classify subjects as schizophrenics or nonschizophrenics can be found in Table 1. Only by using 16 symptom variables was the classification accuracy increased to 100%. Using discriminant function analysis with nonpathognomonic symptom combinations appears to be a practical and viable diagnostic system of schizophrenia which showed significantly greater correspondence to the results obtained from traditional hospital diagnostic procedures when compared with other prominent diagnostic systems (Newmark,

Falk, Boren, & Finch, 1976; Newmark, Falk, Johns, Boren, & Forehand, 1976).

### Procedure

Subjects received Form A of the WIS I approximately 48-96 hours after admission as part of the routine screening procedure. Form A was used because it has been demonstrated by Whitaker (1973) to have greater validity for the discrimination of schizophrenics from other psychiatric patients than Form B. Although Whitaker (1973) has presented normative data based on examiner inquiry, only initial responses were used in this investigation. Such an approach has been advocated by Albott and Gilbert (1973) because when the WIS I is administered in a group setting it is not feasible to conduct individual inquiries and because only a small gain in classificatory efficiency occurred when using the Index instead of the error score (Whitaker, 1973). Thus, only error scores were used, with 8 as the cut-off score.

Before administration of the symptom assessment questionnaire, the raters consisting of three PhD clinical psychologists were presented detailed operationally defined explanations of each of the four symptoms in an attempt to reduce idiosyncratic biases. These detailed definitions can be found elsewhere (Hoch, 1972; Lehmann, 1967; Noyes & Kolb, 1967). While as definitions can never be rigorous or complete except in mathematics, they nevertheless serve to demarcate a concept even though its boundaries remain somewhat blurred (Zubin, 1967). All raters had at least five years of diagnostic experience. This procedure was necessary because Kreitman (1964) demonstrated that variables relating to nomenclature and degree of experience are the greatest impediments to reliability in psychiatric diagnoses. Clearly definable terms and equivalent diagnostic experience are essential.

Each patient then was interviewed within 24 hours following completion of the WIS I using the MSS by one of the raters while another rater observed this initial diagnostic interview behind a one-way mirror. Neither rater was familiar with the patient's history or observed ward behavior.



ior. Reliability is definitely enhanced if two raters observe the same interview rather than each rater observing a separate interview (Wittenborn, 1972). Thus, each subject was rated each time by two raters so that interrater reliability was assessed for each subject. Immediately after the interview, each rater recorded his observations independent of his colleague's rating. A symptom was not considered to be present unless both raters agreed upon its presence. The percent of agreement between pairs of raters ranged from 75% to 100% ( $Md = 90$ ). This 90% agreement may be an overestimate because it includes agreements on both the presence and absence of symptoms. Agreement on the presence is more critical and was somewhat lower at 83%. However, because percentage of agreement seems to be an overestimate of reliability, kappa, a statistic for measuring agreement of nominal categories, such as diagnosis, which incorporates a correction for chance, was used (Spitzer & Fleiss, 1974). The kappa value for agreement between pairs of raters ranged from .60 to 1.00 ( $Mdn = .75$ ).

When the ratings were completed, the coefficients of the discriminant functions for each of the four major symptoms were utilized to diagnose schizophrenia versus nonschizophrenia. Such calculations require little time and effort. For example, if a patient exhibited loose associations, loss of ego boundaries, and autism, but not delusions, the discriminant function equation using Table 1 was  $6.85035(1) + 4.69684(1) + 4.94757(1) + 4.25569(0) - 8.81649 = 7.67827$  and  $.65298(0) + .45912(0) + 1.88828(0) + .52454(1) - 1.06585 = -.54131$ . Because the value obtained using coefficients for schizophrenia was greater than the value obtained using coefficients for nonschizophrenia, the patient was classified as schizophrenic. Note that the number one (1) is used as the multiplier with the coefficients for schizophrenia if the symptom is present, while zero (0) is used as the multiplier with the coefficients for schizophrenia if the symptom is absent. Whatever multiplier, namely 0 or 1, is not used with the symptom coefficient of schizophrenia then is used as the multiplier with the corresponding symptom coefficient for nonschizophrenia.

The criterion diagnosis for each patient was established during the first week of admission to the hospital by staff review of all available clinical information, social history, observed behavior on the ward, diagnostic interview impression via the MSS and the use of discriminant function analysis. No psychiatric diagnostic category was eliminated from this study in order to expedite the identifications of the number and kinds of symptoms found in all categories describing other psychiatric entities as well as schizophrenia. Those patients diagnosed as schizophrenic received psychological tests consisting of the MMPI and the Rorschach to substantiate the diagnosis. If the diagnosis of schizophrenia was not supported by the test data, the patient was removed from the study. Of the 134 initially diagnosed schizophrenics, the test data supported this diagnosis in 80% of the cases. Such a rigorous procedure was necessary in order to increase the validity of the diagnosis. Many prior studies on schizophrenia based the diagnosis primarily on the subjective impressions from an unstructured initial interview and thus the potential of idiosyncratic diagnostic bias of schizophrenia was evident (e.g., Yusin, Nihira, & Mortashed, 1974).

### Results

Two hundred and five nonschizophrenics (133 women and 72 men) and 108 schizophrenics (61 women and 47 men) comprised the sample. The nonschizophrenic population encompassed diagnostic categories described in the Diagnostic and Statistical Manual of Mental Disorders (DSM-II) (American Psychiatric Association, 1968). These categories included nonpsychotic organic brain syndrome ( $n = 9$ ); psychoses due to organic factors ( $n = 7$ ); affective psychoses, including involuntional melancholia and manic-depressive ( $n = 28$ ); other psychoses, including paranoid states and psychotic depression ( $n = 13$ ); neurosis, including anxiety, hysterical, obsessive-compulsive, depressive, and hypochondriacal ( $n = 5$ ); personality disorders, including paranoid, schizoid, hysterical, antisocial, passive-aggressive, sexual deviate, alcoholism, and drug de-



pendent ( $n = 55$ ); psychophysiological disorders, including gastrointestinal and musculoskeletal ( $n = 3$ ); and transient situational disturbances, including adjustment reactions of adolescence and late life ( $n = 25$ ).

The schizophrenic population consisted of seven diagnostic categories described in the DSM-II. These categories included simple, paranoid, acute, latent, residual, affective, and chronic undifferentiated. That no catatonic or hebephrenic schizophrenia were diagnosed is consistent with the findings of a recent study by Morrison (1974) which revealed that the diagnosis of these two schizophrenic entities has decreased significantly over the past 47 years. The decreases appeared due to changes in definitions and hospital admission practices.

The WIST error scores correctly diagnosed 63% of the schizophrenic sample and 86% of the nonschizophrenic sample,  $\chi^2(1) = 20.25, p \leq .001$ . The high false negative misclassification rate (WIST score diagnosed as nonschizophrenic a criterion diagnosed schizophrenic occurred primarily with the chronic undifferentiated, latent and residual schizophrenics. That chronic schizophrenics obtained lower scores on the WIST when compared with other schizophrenic groups has been documented (Whitaker, 1973).

### Discussion

Reasons for the high false negative misclassification rate are unclear. Loro (1976) suggested that such difficulties are inherent because patients with disturbed thinking are highly unlikely to repeat their disturbed thoughts for controlled experimental studies. Recent discussions of thought disorder have suggested that reevaluation of the proliferation of these basic concepts, theories and hypotheses is needed (Andreasen & Powers, 1976) and have seriously questioned the notion that thought disorder is pathognomonic of schizophrenia (Newmark et al., 1975; Yusin et al., 1974). Reed (1970) purported that schizophrenic thought disorder differs from normal thinking in quantity rather than quality. In one investigation, clinicians were unable to distinguish speech and writing samples of schizophrenic patients, manic patients,

and well-known creative writers (Andreasen, Tsuang, & Canter, 1974). Other investigations as presented by Andreasen and Powers (1976) have suggested that thought disorder occurs in manic as well as schizophrenic patients and that manics may show even more thought disorder than schizophrenics. Quite possibly, Whitaker's (1973) conceptualization of schizophrenic thinking may be too limited. Partial support for this conclusion can be found in presentations of the various types of thought disorders by Hoch (1972), Lehmann (1967), Noyes and Kolb (1967), and Reed (1970).

The minimally high false positive misclassification rate (WIST score diagnosed as schizophrenic a criterion diagnosed nonschizophrenic) was elevated spuriously due to the presence of cerebral dysfunction and drug abuse in the nonschizophrenic sample. Seven of the 16 patients with cerebral dysfunction and 4 of the 11 drug abuse patients obtained WIST scores suggesting schizophrenia. These results are not surprising because Abbott and Gilbert (1973) discussed the difficulties in using the WIST to differentiate nonbrain-damaged schizophrenics from brain-damaged nonschizophrenics, while Bower (1972, 1977) found that many symptoms thought to be pathognomonic of schizophrenia also occur in patients with acute psychosis induced by psychomotoric drug abuse. Of the 29 nonschizophrenics who were misclassified 11 were from these latter two groups. While cerebral dysfunction can be detected by physical measures, a thorough social history is needed to assess drug abuse. Unfortunately, both assessment strategies have definite limitations.

Thus, Whitaker's (1973) conclusion that the WIST should be used only as a brief screening device seems well-founded. He urged that special caution be exercised in labeling an individual as schizophrenic when no evidence other than WIST results were available or when the patient did not meet test requirements in terms of age, education, and vocabulary proficiency. While lowering the criterion error score for schizophrenia on the WIST would reduce the false negatives and increase the accuracy of the system, a simultaneous increase in false positives would occur. The latter error is more serious be-





**Society for Personality Assessment, Inc.**  
**Minutes of the Meeting of the Board of Trustees**  
**Toronto, Canada**  
**August 27, 1978, 5:30-7:30 p.m.**

**Present:** Irving B. Weiner, presiding; Richard Dana, Anthony Davids, Leonard Goodstein, Walter and Joan Klopfer, Nelson Jones, George Stricker, Carl Zimet and six members including John Exner, Charles Spielberger and Ross Smith.

**Minutes:**

The Minutes of the March 1978 meeting were approved as presented.

## REPORTS

### Treasurer's Report

The Society is in a sound financial condition and no further dues increase is anticipated at this time.

### Membership Committee

The Board approved a total of 48 applicants. The Board expressed appreciation to Doris Gruenewald, C. J. Rosenkrans, and Ben A. Siegal who completed their service on the Membership Committee. Three new committee members were approved by the Board: Joseph T. Kunce, Joseph R. Ray and June M. Tuma. The Board also approved a modification in procedures whereby applications are abstracted by the Chairperson for distribution to committee members.

### Election Committee

The results of the elections were: Richard H. Dana, President-Elect; Tom Patterson, Secretary; Sid Blatt, Eastern Representative. While 46.4% of the voting-eligible membership returned ballots, a small, closely-knit, interest-oriented group might be expected to evince greater interest.

### Journal

The total number of manuscripts received continues to increase as does the rejection rate (75%). A new Consulting Editor, Charles Newmark, was added.

Edward Aronow is now Editor of the "News and Notes" section. Gratitude was expressed to Earl S. Taulbee the previous editor of this section. The blind review process continues to work smoothly. A 20% increase in typesetting costs was in effect with the August issue.

### Committee on

### International Rorschach Congress

The Board unanimously approved a motion that the IRC be officially invited to hold their meeting in Washington, DC in 1981 contingent upon adequate financial arrangements. The Board authorized the committee to function autonomously except for financial arrangements. John Exner will meet with the IRC Board to present two options regarding time of meeting.

## OLD BUSINESS

### Bruno Klopfer

### Distinguished Contribution Award

More publicity for the Award presentation and address were provided this year through Division 12 and 29 Newsletter announcements. Due to limited attendance at recent award presentations, the Board will conduct a mail ballot in conjunction with the selection of the next recipient to decide whether or not to continue the presentation at APA. The sentiment of the Board was for the Award to be made at the spring meeting where a larger attendance would be assured.

### O. K. Buros Memorial

The memorial has been prepared and is in print. Copies will be sent to Dr. Buros' widow, the President of Rutgers, and to the 8th Mental Measurements Yearbook for possible inclusion. Nelson Jones will prepare a letter of appreciation for the memorial author.



### 1978 Midwinter Meeting

The Tampa meeting showed a \$483 surplus.

### 1979 Midwinter Meeting

This meeting will be held at the Sunburst Hotel, Scottsdale, Arizona on March 16 and 17, 1979. The program is in preparation and will probably include three one-half day workshops and one full day workshop as well as papers and addresses. The deadline for submission of proposals is October 15, 1978.

## NEW BUSINESS

### Certificates for Members

There have been several inquiries from members regarding certificates of membership status (in addition to fellow certificates already provided). The cost of certificates will be explored.

Respectfully submitted,  
Richard H. Dana, Secretary

## P. A. News & Notes

### ANNOUNCEMENTS

The Australian Council for Educational Research (PO Box 210, Hawthorn, Victoria, Australia 3122) announces publication of the *Childrens Depression Scale* by Moshe Lang and Miriam Tisher — price of test kit, \$A30. The scale contains items printed on cards to be sorted by the child. The manual is reported to contain evidence of the test's reliability and validity as well as normative data.

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In taking over the stewardship of this column from Dr. Earl Taulbee, I will try to continue the tradition he established with respect to the informal nature of its

contents. I would like to invite readers of this journal to consider this column a place in which you may publish requests to correspond with others interested in a particular area, preliminary comments on research that is being carried out, general comments relevant to personality assessment (including those of a controversial nature), conference announcements, etc. I will do my best to be an impartial arbiter of what is suitable for our journal.

Edward Aronow  
59 Gordonhurst Avenue  
Upper Montclair, N.J. 07041

# EIDETICS

## a visual system for individual and group psychotherapy by AHSEN

The eidetic image is a bright and lively inner mental picture which elicits a vast spectrum of psychological information. Seen like a movie image, the eidetic causes the person to experience his emotional states with vivid sensations and positive transformation of behavior and consciousness. A normal and fascinating image phenomenon, the eidetic exists in both adults and children, but stays dormant unless helped to become activated through special techniques. Ahsen's acclaimed work on Eidetic Technique, Research, and Therapy Procedures has opened a unique and exciting approach to mind.

### SOME VIEWS ON AHSEN'S WORK

"Unmatched in the clinical literature . . . a methodological advance."

— *The American Journal of Psychiatry*

"Compared to Akhter Ahsen's penetrating analysis of imagery formation and eidetic processes, all other clinical uses of imagery appear singularly embryonic."

— Arnold A. Lazarus, Ph.D.

"It is possible that what Ahsen has achieved is a new means of communication, more subtle than verbalization of facts and associative thinking."

— *Behavior Therapy*

"Adds to currently accepted principles of developmental psychology as exemplified in psychoanalysis and Piaget's work"

— *Pakistan Journal of Psychology*

"One of the most significant developments yet to emerge in psychotherapy since Freud's psychoanalysis"

— *The Glasgow Journal of Psychology*

An exciting and ingenious way of getting at conflict areas."

— *Contemporary Psychology*

"Really a break-through . . . Its extreme usefulness for divergent schools . . . cannot be denied"

— *Manab Mon, Behaviour and Behaviour Control*

"Of great value . . . a rapid approach to resolving the patient's problems"

— *Indian Journal of Psychiatry*

"A very original and very promising approach."

— *Zeitschrift für Psychologie*

"American Psychiatry is indeed fortunate to have the stimulation and enrichment of Ahsen's highly original and creative presence."

— *Existential Psychiatry*

"Akhter Ahsen has written an original work which does full credit to Isadore Chien's thesis that philosophy and science can and should be amalgamated to create a systematic view of reality. For that part of the psychological reality with which he deals, Ahsen has given a theoretical framework and a methodology which is one example of how one can unite a metaphysical position with a physical system and put the Cartesian dichotomy aright."

— *International Journal of Clinical and Experimental Hypnosis*



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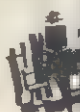
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## Book Reviews

**Akhter Ahsen.** *Psycheye*. New York: Brandon House, Inc., 1977, 279 pages, \$9.95.

### Worth 1000 Words

*Reviewed by Joseph Richman*

*The reviewer is an associate professor at the Albert Einstein College of Medicine, and a Senior Psychologist at the Bronx Municipal Hospital Center. He has had training and experience in individual, group, and family therapy, as well as in gestalt, psychodramatic, and psychoanalytically oriented techniques.*

The use of imagery for the study and improvement of the human condition has been stimulated recently by the prolific writings of Akhter Ahsen. *Psycheye*, one of the latest, is presented as a self help book for the lay public. It is a stimulating and intriguing work.

The book describes a method of self-analysis based upon training in eidetic imagery through a series of systematic exercises within which the author's Eidetic Parents Test is integrated. Ahsen considers the capacity to form eidetic images to be at least potentially present in everyone, and postulates a neurological basis to this ability. He also postulates a biological link between the individual and his family images, based upon the fact that human parents have reared their children since prehistoric times, a view which is reminiscent of Jung's collective unconscious. In addition to the early works of Jaensch and the later neurological studies of Penfield, the author has been influenced by Eastern as well as Western traditions. A very helpful introduction by A. T. Dolan summarizes the method, abstracts several reviews of previous work with eidetic imagery therapy, and touches upon different schools of treatment that appear relevant or associated.

The major areas covered are the self and parental images, training in the evocation of these images, and the relation of these to the symptoms and complaints present in the person. There is a direction to the exercises from initially negative and painful images to positive and playful ones. The exercises conclude with some excellent "empathic imagery procedures," involving feeling and responding to the imagery of other individuals in a group setting.

One of the most intriguing aspects of the theory is the tripartite division of the eidetic into an image, with its associated feeling and/

or somatic state, and its meaning. When any one or more of these are missing from awareness there is a "Consciousness-Imagery Gap." A major goal of the treatment is to locate these gaps and raise them into consciousness.

The value of Ahsen's therapy is unquestionable. However, there are several questionable aspects to his theory. Ahsen's claim that eidetic imagery is possible in everyone does not conform to the old experimental literature on the subject. Are there cognitive, personality, or developmental variables? Such questions seem in need of further investigation, first to help determine the validity of the method and second for which populations.

The quite proper emphasis upon the eidetic images of the parents touches upon the object relations school of Klein and Winnicott in England, although the author does not mention them. Less properly, he does seem to take sides with one parent against the other. "Identification with one parent leads to rejection of the other parent," he declares at one point. Later, the infant is presented as a passive victim of "the defects of the mother... a failing in the maternal process." The father may be blamed by the child, but it is "really" the mother who is at fault. Fortunately, such views are not central to the use or success of Ahsen's eidetic therapy.

To this reader, it appeared that Ahsen may have been writing about meaningful imagery, not necessarily actual eidetic images based in the brain. In one exercise, for example, he asks the subject to imagine his parents' heart and other internal organs. These are evidently not genuine eidetic images, but they are images and potentially meaningful ones.

I did apply several of the exercises to myself with what I considered subjectively fruitful and impressive results, and to two of my patients, again with what appeared as objectively fruitful responses. Efforts with two other patients, however, were unsuccessful. While the author declares that this book is designed for a self-analysis, the need for an external guide or therapist for many persons seemed apparent.

In conclusion, there is no question that it is a stimulating and worthwhile book. The use of vivid and guided imagery does cut through much of the verbiage with which we conceal ourselves from ourselves. There is an optimistic, hopeful, and nonelitist quality to Ahsen's approach. No matter what one's orientation, this book will alert the psychology

practitioner to the diagnostic and therapeutic possibilities of eidetic imagery. This, therefore, is an important work, recommended for those who wish to help others as well as those who wish to be helped. It is a valuable introduction to an area that is certain to grow in meaning and popularity.

**L. Eugene Arnold.** *Helping Parents Help Their Children*. New York: Brunner, Mazel, 1978, 420 pages, \$17.50.

*Reviewed by Laura H. Lewis*

*Dr. Lewis holds a doctorate in psychology from the University of Nebraska, Lincoln and is a Diplomate in Clinical Psychology, American Board of Professional Psychology. She is currently in private practice in the Los Angeles area having just left a Health Maintenance Organization where she was clinic administrator of an outpatient psychiatric clinic. Dr. Lewis' specialty is the treatment of children, adolescents, and families. She has been director of inpatient units for psychiatrically disturbed children in Nebraska and at Children's Memorial Hospital, Chicago where she was also Director of Training for Psychology and Assistant Clinical Professor of Pediatrics and Psychiatry at Northwestern University School of Medicine.*

The purpose of *Helping Parents Help Their Children* is to provide "a textbook for the beginning professional and a review and reference book for the established practitioner" (p. vii), and it is directed toward guiding parents in raising and living with their children and then indirectly helping their children. "It presupposes a cooperative working alliance between the parents and the helping professional, both of whom are interested in the welfare of the child" (p. vii).

The book is an edited one and presents views from psychiatry, psychology, social work, education, pediatrics, law, and religion. Each of the authors has a special area of interest and is able in it. The volume is developed along five dimensions. Part I, *General Principles of Parent Guidance*, includes discussions of both strategies of parent guidance and the functions, tasks and stresses of parenting. Part II, *Conceptual Options in Parent Guidance*, covers games parents play, filial therapy, modifying children's behavior, growing-up together, rational-emotive guidance, psychoanalytic insights and reality guidance, to mention a few. In Part III, *Helping Parents Cope with Specific Problems of Children*, there are discussions of children who are mentally retarded, chronically ill, physically handicapped, psychosomatic, hy-

peractive, aggressive, neurotic, psychotic, or who have special symptoms or who are delinquent. Part IV, *Guiding Parents Who Have Specific Problems*, is devoted to the abusing parent, separated or divorced parents, step-parents, adoptive or foster parents, teenage mothers, or very disturbed parents. The last, Part V, *Guidance by Professionals outside the Mental Health Field*, gives views on guidance of parents by physicians, nurses, educators, pastors, and divorce court workers.

This book presents a large amount of material presented in relatively short chapters each of which attends to a single theme. In general the volume is readable with concise information and ideas relative to the theme of the chapter. It flows remarkably well considering the diversity of authors. The data, theories, and philosophies are more often than not thought-provoking and each presents a succinct way of looking at specific children/parents and the situations within which they find themselves. The practical suggestions and techniques offered are worth considering carefully when one is presented with similar cases.

It is a difficult task, at best, to attend to the divergent needs of the initiate and the experienced professional at the same time in chapters of the general length of those found in this book. Some of the authors have solved the problem by focusing on one group only, some have tried for both, and still others have aimed somewhere in between the two. As with most multiple authored works, the quality, clarity, parsimony and relevance to intended topic varies from author to author. Thus the chapters evidence varying degrees of success with the majority being more successful than less.

I found reading this book a pleasurable experience. On many occasions, I found myself with a feeling of "rightness" about what was written, and thought "I wish I had said that first." In my opinion, this book is a must for the initiate, the student of parent guidance and additionally for the teacher of beginning parental therapists. It will be a worthwhile addition to the reference library of any practitioner in the field. I recommend it to all and feel that Editor Arnold has succeeded at his task very well.

**Karen Bolander.** *Assessing Personality Through Tree Drawings*. New York: Basic Books, 1977, xix + 421 pages, \$20.00

*A Tree is a Tree, Not a Person*

*Reviewed by Robert M. Allen*

*Your reviewer is now applying full-time those concepts, principles, techniques and*



interpretations he has taught to undergraduate and graduate students for the past 10 years. Since retirement from the position of Director for what passes to be academic life, he has taken on new responsibilities: Director of Psychological Services, Grant Center Hospital and Treatment Center (Miami, Florida), private practice as a consultant for personality evaluation, and as Director of Student Affairs and Field Training of the newly established School of Professional Psychology (Miami, Florida).

Some retirement!

To understandingly accept Dr. Blander's interpretations requires a basic faith in the ideographic approach to the validity of the Free Drawing technique. Certainly it is not written in the nomothetic framework. Dr. DiLeo's evaluation in the foreword expresses a similar view (pp. x-xi):

If one accepts the author's basic premises and its logical corollaries (i.e., RMT), then the interpretation into the scientific domain of a variety of details may be regarded as generous, reasonable and respectable. It is sometimes seemingly speculative. But it is not clear that there can be a general conclusion drawn from a total which is highly complex, in which the variables and where the interpretation is of necessity largely subjective.

How often has this been stated as the rationale for the acceptability of the projective method in general? Indirectly, this is an appeal for validity by personal prestige. When Dr. DiLeo has captured the spirit of Dr. Blander's approach, the question is whether the reader will react in kind.

The author should have opened with a dialogue in which she establishes the purpose of the book, its basic rationale and her understanding of the Free Drawing technique, its pitfalls and difficulties. Moreover, she should have offered an unnecessary apology for her "serious lack of grace" for the comparison of her work with Buck (1966) and Koch (1952). **This topic were also treated as** expected when the author is addressing her own theoretical and applied position.

The first Part expresses the basic rationale of the Free Drawing technique. A number of chapters have targeted Koch's *Free Drawing test* and Buck's *H-I-P* as the recipients of critical barbs. Others are mentioned in passing. Having set up the stage, the author proceeds to stand on her own feet with their feet in quicksand - from her own viewpoint.

Your reviewer was impressed with Dr. Blander's critique of Buck's *H-I-P*. It consisted not of solid data but of a personal example (p. 45):

... or (the keyhole tree) to be associated with one frequently with ...

... The ...

... The ...

... Dr. B ...

... The ...

experience with the interpretation of the trees of subjects of other racial or cultural backgrounds, we have found that the method seems to work equally well, so long as the insights derived are integrated with what is known of the culture involved (pp. 335-336).

This is excellent advice for the user of this technique provided it is followed and is feasible.

The reader is invited to study the table on p. 337, Distribution of Subjects by Sex and Profession, to determine the generalizability of the interpretations presented in Part II. The number of persons from whom tree drawings have been collected is 3,175. A goodly number, as test validation goes, but there is more to validation than the listing of subjects by sex and profession. This is a major weakness of Dr. Bolander's position. There are no correlations between signs and external criteria beyond the author's qualitative descriptions or "meaningful insights."

It is possible that this tome will become a cause celebre among psychologists. It deserves this distinction since it will contribute to the arguments between the behavioral novelist psychologists and the behavioral scientist psychologists—neither of whom are doing an outstanding job of personality assessment.

The author's final paragraph may also serve as this reviewer's closing words (p. 402): "We may perhaps be guilty of arrogance, for we have at times implied that our method is superior to other methods. We may also be accused of flippancy or even heresy, for we have dared to question the value of approaches to knowledge at the present held to be almost sacred." To which this reviewer adds "Amen" and a caution not to discard other approaches to understanding the dynamics of behavior.

#### References

- Buck, J. N. *H-T-P: House-Tree-Person projective technique*. Revised Manual. Beverly Hills, CA: Western Psychological Services, 1966.
- Koch, K. *The Tree Test: The tree drawing test as an aid in psychodiagnosis*. 2nd (ed), English translation. Berne: Hans Huber, 1952.

**Helen S. Farmer, and Thomas E. Backer.** *New Career Options for Women. I. A Counselor's Sourcebook*. New York: Human Sciences Press, 1977, 349 pages, \$16.95.

**Helen S. Farmer, and Thomas E. Backer.** *New Career Options for Women. II. A Woman's Guide*. New York:

Human Sciences Press, 1977, 60 pages, \$4.95.

**Ann Phelps, Helen S. Farmer, and Thomas E. Backer.** *New Career Options for Women. III. A Selected Annotated Bibliography*. New York: Human Sciences Press, 1977, 144 pages, \$9.95.

#### A Counselor's Trio

Reviewed by Lita Linzer Schwartz

The reviewer's interest in women's re-entry options began with her own experiences, followed by work with women enrolled, often diffidently, at Penn State's Ogontz Campus (where she is Professor of Educational Psychology). Growing familiarity with the motivations, conflicts, and barriers facing women returning to education and/or the labor market has led to the publication of several articles by the reviewer in this field.

The advertising blurb for this group of books calls the package "A three-part series for counselors, counselor trainers, and girls thinking about careers." In this review, each "part" is treated separately.

#### 1. *A Counselor's Sourcebook*

The *Sourcebook* is addressed to counselors, counselor trainers, and researchers in career counseling for women. It presents facts, statistics, and trends relevant to women working in the 1970s. Indeed, there are 52 charts and tables of supporting data. Recent legislation affecting women at work, special problems of some women's groups (blacks, widows, career changers, divorcees, and re-entry women), counseling techniques and strategies, and the fruits of research in these areas are the principal topics of discussion. There is substantial supporting research information provided, including comparative years of education, earnings, and types of jobs held by women in the United States and several foreign countries.

Attention is paid in this volume to the special needs of re-entry women, those entering the crafts as well as the professions, and those seeking part-time as well as full-time jobs. Opportunities for continuing education are described, although naturally there are local variations. Some of the information given in this, as in other areas, is already "dated," as it stems from the 1966-74 period. However, the information given does provide direction for current investigation as needed.

The discussions of "special issues" such as the working mother, achievement motivation, and male-female differences should assist the counselor in answering client questions as well as his/her own doubts. The

chapter following, that deals with theories underlying career counseling, should be similarly helpful. Sex bias and sex stereotypes are discussed in both chapters and are problems that the counselor must face in order to interact effectively with women clients. These topics are increasingly the theme of research published in professional and lay literature and papers presented at professional meetings. The crucial value of their inclusion in this book is that here they are neatly collected and summarized for the practitioner.

The chapter on counseling techniques and methods is particularly useful since it goes beyond tests and offers several types of additional resource information. As in a number of other chapters, "beliefs" and "myths" are countered by statements of "reality," usually based on research data.

The last third of the book is devoted to resources and legal aids. Some of the material is appropriate for use with high school students, although most of it is directed toward the counselor.

Overall, the neophyte counselor will find this a useful reference, and even the more experienced counselor may learn something new here. There are two minor criticisms: the inclusion of some information that was already out-of-date by the time of publication, and the very difficult-to-read reproduction of legal and some tabular documents.

## 2. A Woman's Guide

This booklet is addressed directly to the prospective client, the woman who is considering re-entry to the labor market or the educational scene, or the high school girl looking toward the future. About half of the material is presented in a question-answer format. The answers provide factual data on labor market prospects, anti-discrimination legislation, and sources of career information. Several myths or barriers to re-entry and women's employment generally are also demolished. All of this information is presented in clearly-written short paragraphs.

The second part of the pamphlet lists newsletters, government and nongovernment agencies providing publications about women, and women's units in 67 professional organizations. All of these citations provide appropriate data in the form of addresses, telephone numbers where needed, and persons or specific offices to contact for further information.

As a whole, the booklet is simple, direct, and informative. It can be read rather quickly while waiting in a professional's office, and would not be out-of-place in the waiting room. Indeed, it might even have therapeutic value for some clients.

## 3. A Selected Annotated Bibliography

The annotated bibliography is primarily a supporting volume for *A Counselor's Sourcebook* of this group and is accordingly arranged to conform to that volume's chapter headings and major subtopics. Critical comments are given for most of the 240 references selected for annotation. Although most of the references are dated 1970 or later, only two (2) are dated after 1974 (both in press). Even allowing for the common problem of publication lag, it is surprising that there were no attempts to include 1975-76 references if the report was not completed until October 1976 (date given on the title page).

There is no pretense that the book is exhaustive in citing references; rather the effort is to supply a representative sample of references appropriate to the chapters and subtopics. General studies of women in the labor force from both a domestic and an international point of view, account for 34 citations, with an additional 32 citations for sub-topics in this chapter. Sources are principally professional journals and government publications. The remaining references focus on opportunities for women in training and education, special issues (dual career efforts, achievement motivation, biological and psychological differences between the sexes), counseling theories, concepts, techniques, and methods, and general legal issues.

The volume is valuable within its time limits. One can locate the titles of government reports that are periodically re-issued with up-to-date data. Certainly one can discover which issues or population samples lend themselves to further research. The fundamental research reported here provides a commendable introduction to the scope of writing in this field, and to some of the major compilations of articles published in the early 1970s. For those current material, those interested are referred to Little and Denker's review article (1977) and to a group of four papers in *Interact* (1977).

## 4. Concluding Remarks

The *Sourcebook* and the *Bibliography*, despite their few weaknesses and omissions, are especially valuable to counselors, trainees, and relatively inexperienced counselors. The *Woman's Guide*, although helpful to any woman considering re-entry or career change, may be even more appropriately considered for use with high school girls in a career education program.

Two notes on the advertising material for the package, which was received separately. The number of pages given in the advertisement is over-estimated for the first two volumes and under-estimated for the third. Also, a dis-



counted price of \$25.48 is offered if the three parts are purchased as a group.

#### References

- Campbell, E. Equality by default: Women in dual roles. *Intellect*, 1978, 106, 307-309.
- Kaslow, F. W., & Schwartz, L. L. Self-perceptions of the attractive, successful female professional. *Intellect*, 1978, 106, 313-315.
- Newman, S. G. Wife, mother, teacher, scholar, and sex object: Role conflicts of a female academic. *Intellect*, 1978, 106, 302-306.
- Parker, F. Women at work and in school: The new revolution. *Intellect*, 1978, 106, 310-312.
- Tittle, C. K., & Denker, E. R. Re-entry women: A selective review of the educational process, career choice, and interest measurement. *Review of Educational Research*, 1977, 47, 531-584.

**Herman Feifel (Ed.), *New Meanings of Death*. New York: McGraw-Hill, 1977, 384 pages, paper, \$11.95.**

*Reviewed by* Walter G. Klopfer

*The reviewer is a professor of psychology at Portland State University where he teaches courses on the meaning of death and dying. He is also a clinical psychologist in independent practice in Portland, Oregon, and Editor of the Journal of Personality Assessment.*

This volume purports to be a new edition of the 1959 book, *The Meaning of Death*, also edited by Feifel. However, it soon is made clear that the only similarity is the title. Actually, the present volume is better planned, more highly organized, and generally much more inclusive than the original. This is understandable in view of the information explosion in the area of thanatology which has occurred during the past 20 years.

The first major section of the book deals with developmental orientations, of which there are three. The first, by Kastenbaum, talks about the understanding of death at different ages and developmental levels. It is quoted (although denied in a later chapter in the same section) that only children over nine can understand the finality and universality of death. Of course, the deaths of their own parents can produce many psychological hazards and can result in depression, guilt, and fear, especially in the absence of previous knowledge. Kastenbaum points out that young adults have little death risk and that their demise occurs primarily from accidents and suicide. Mid-life adults acquire a more poignant sense of mortality and are likely to experience the death of their own parents.

In old age, bereavement of partner and loss of friends is experienced. Bluebond-Langner

provides an excellent review of the literature on the reaction of children to death and discusses the discrepant findings and alternate theoretical explanations. This researcher discovers that children's explanations of death vary with socio-economic class and that terminally ill children themselves acquire the understanding gradually by stages of information. How quickly this happens depends on their ability to integrate and synthesize information based on experience. This author points out that getting ready for death is symptomized by such indicators as a fear of wasting time and avoidance of discussion of future events; death imagery in art, literature, and play; and establishment of distance from others through anger and concern with physical aspects of dying. Bluebond-Langner concludes that normal children, like those who are terminally ill, have views of death that reflect their social, psychological, and intellectual experiences at the time. Shneidman talks about the college student and death, and points out that early adulthood and late adolescence is a state of critical decisions. His research on college students indicates that they believe psychological factors influence life and death and that they tend to be generally secular in their attitude. They conceptualize death as the end of consciousness and as final and permanent. College students, like other young adults, tend to die as a result of accident as much as by illness. Shneidman feels strongly that the college student can be actor as well as acted upon, and he feels that teaching of thanatology helps to desensitize them as well as making them more helpful to other people.

The second and very helpful section of the book deals with clinical management. There is a chapter by White on physicians, which reviews the difficulty that the medical profession has had in mastering the threat of death, the fact that the word "terminal" to them has an ominous ring, and that they tend to emphasize *cure* rather than *care*. White points out that technology produces tight decisions about whether to prolong life but enjoins the physicians that diagnosis must be shared by both patient and family, and that there is little danger in doing this because people have a degree of denial appropriate to their individual ego strength. He wisely points out that if we do not share, we deny others the right to fight death in whatever way may be open to them. Weisman talks about death and the psychiatrist, and contends that there is a resurgence of interest by the psychiatric profession. His chapter tends to be philosophical, existential, and rather vague. It talks about the psychodynamic contributions to death but in rather general terms that provide little new



information to the reader. In terms of management, he enjoins the psychiatrist to be compassionate and constructive about death, to help people to deal with anticipatory grief, and to help provide the terminally ill person with safe conduct.

Benoliel, in a chapter on dying and nurses, talks about the number of elderly persons and prolonged illnesses being increased with a consequent change in what is demanded in nursing care. He points out that nurses tend to be in middle management and not in direct patient contact, and that they are often given little responsibility and less authority by their physician-superiors. However, the author feels that nurses in intensive care, emergency care, and chronic care, should all be trained in thanatology since they have roles to play with patients in all kinds of life-threatening situations. He feels that terminal care is hard when it is prolonged and that family members get upset and angry, but that nurses should be psychological guides and should be prepared to offer medical remediation for pain.

Garfield reviews the important elements of therapy with dying persons in his chapter on the health professional and the dying person. He says that health professionals have trouble being comfortable with death, that they have trouble facing their own mortality. He further states that the professionals have a hard time facing the many serious emotional issues having to do with dying and that they need to bring relatives and dying persons together to work on anticipatory grief. Nothing new here, but a good review.

There is a chapter by Saunders about the St. Christopher's Hospice which is extremely important and novel and up-to-date. The Hospice is described as a pleasant place with a pattern of activities that are tailored for every individual involved. The patient becomes freed of responsibility and can gain comfort, companionship, and freedom from pain. The emphasis here is on *personal* care and there is a large staff of attentive professionals who emphasize this personal caring rather than the traditional formal professional demeanor. Program evaluations of the hospice plan have been very favorable. The section is rounded out by two self-reports by Kelly and Jaffe of people who themselves are facing death. These are very searching personal testimonials and their generality is only limited by the fact that both of the writers were very talented individuals with very devoted partners. Kelly points out that being macho or denying the problem doesn't help and that talking about it openly is better. His coping style is to savor life. Jaffe talks about "Terminal Candor" which includes openness and "gallows" humor used in the

report. He indicates that remissions are comforting for sufferers, but difficult on relatives. Oftentimes, the dying and the survivors are "out of sync."

The matter of survivors is the topic of the next brief section, consisting of chapters by Kalish and by Raether and Slater. Kalish talks about problems of the bereaved mate and of families in general. He mentions that people dying in old age is generally more acceptable, and that children dying is considered the most tragic. He talks about the need for planning for death financially, legally, sociologically, and psychologically. Raether and Slater talk about immediate post-death activities and give a history and review of the concept of funeralization. They describe the phases of the funeral as including removal, visitation period, funeral rite, procession, and committal of the remains. Although they admit that the funeral is controversial, they feel that it can be valuable if it is handled sensitively, perceptively, adaptively, and economically.

The last section of the book, called "Responses to Death," is probably the most difficult to understand conceptually, since it consists of four chapters that show no evident relationship to one another. Levin has one on death education in which he reviews the burgeoning courses on thanatology being offered in universities and colleges. Apparently, students interested in thanatology are characterized only by their diversity as are the courses themselves. Instruction varies from the pedagogic to the experiential. Lifton talks about immortality. Much of his chapter seems to reflect an intent on his part to indicate dissatisfaction with Freud's concepts and to develop a theoretical rationale to take the place of the Freudian one. His framework turns out to be a rather vague concept of "symbolic immortality" which is achieved by developing death imagery. Shaffer and Rodos have an interesting chapter on law as it relates to death and to dying. They mention that estate law has a purpose of providing order of support for the dependents of the formerly alive person and of stilling the growth of private wealth and of encouraging the private sector of industry. Much additional information for those uninterested in this topic is very interesting for those uninterested in this topic. There is then a chapter by Simpson on death and poetry which demonstrates that the theme of death occurs in poetry. This came as no great surprise to the reviewer and it may have seemed rather strange to find this chapter in this book. Somehow it didn't seem to fit in. The final chapter is by Gutman, called "From Power to Death and the Search for Self-Interest." It is an anthropological approach which talks about the trendy interest in death which

he calls "cultural necrophilia." He goes on to discuss how death and power are related through revelation, through mystique, through murder, and through the "almost dead," the aged gerontocracy.

In conclusion, the book is certainly worth reading. The developmental and clinical management sections contain up-to-date information, adequate review of research and are worth the price of the book by themselves. The section on survivors is rather small and it doesn't include some of the more recent references, but perhaps these were published after the book was written. The last section is rather peculiar because of the choice of topics and authors and it isn't clear to the present reviewer what this adds to the overall impact of the book. All in all, the book is certainly a milestone and should be in the library of any thanatologist who purports to keep up with the current literature. Feifel has earned the gratitude of his colleagues once again by bringing together this material.

**Harold Geist, *Emotional Aspects of Heart Disease*. Roslyn Heights, New York: Libra, 1976, 119 pages, \$6.95.**

*Reviewed by Albert Eglash*

*Albert Eglash, PhD, teaches workshops in psychosomatic psychology, and is completing a text, Psychological Aspects of Heart Disease and Cancer: an Annotated and Critical Bibliography.*

This is one of a series of books in which Geist discusses the psychological aspects of illnesses (rheumatoid arthritis, diabetes, epilepsy, migraine) and of events (hospitalization, retirement).

This compact text has two distinct portions, psychological and medical. The psychological portion constitutes a finely-cut cameo, a small gem of personality assessment of four groups of medical patients: arteriosclerotic, valvular, hypertensive, and conduction disorders.

Number of subjects in each diagnostic group ranges from 56 to 124. A questionnaire exploring life-change, self-concept, stress, interpersonal loss, dreams, personality traits, developmental history, employment background, etc., discloses that the four groups have much in common: conformist, nonmarried, getting along well with others, with a good work history. Frequently, there was a recent loss of a significant other, and often a childhood history of tantrums, tremor, and headaches. Geist also indicates ways in which the groups differ.

He also did a Tryon cluster-analysis of his

subjects, the variables including an Affect Check List, a Self-Concept Scale, a Cardiac Adjustment Scale, and the Holtzman Ink Blot Test. He obtained three clusters, one on self-esteem and two on psychopathology. His findings, reported graphically without tests of significance, indicate "a peculiar set of events" (p. 76), that the valvular patients, scoring higher than others on self-esteem, are also high in pathology.

Except for his suggestions to physicians, this concludes Geist's text.

This sparse report could have been enriched with a theory about the etiology of heart diseases, with a testable hypothesis based on the theory, with predictions about outcome, and a discussion of the implications of the data for psychosomatic theory.

Reading the Preface, I had projected into this book just such a theoretical position on Geist's part:

In March 1974 the idea was postulated that heart attacks were caused by the personality and behavior of the people who experienced them. The work of Rosenman and Friedman had previously signalled to the scientific community that behavior dynamics was an important aspect in the etiology of coronary artery disease... Within the large spectrum of heart disease, of which coronary artery disease is only one segment, there are differences in behavior... People with arteriosclerotic heart disease have different dynamics from those with (other) diseases.

I interpreted this as Geist's hypothesis that Type A behavior leads to one kind of heart disease, while other personality traits lead to other kinds. By personal communication the author revealed, "I had no hypothesis."

The title of Geist's text refers neither to the etiology (Friedman & Rosenman, 1974) nor to the impact (Croog & Levine, 1977) of illness, but solely to its correlates.

#### References

- Croog, S., & Levine, S. *The heart patient recovers*. New York: Human Sciences, 1977.  
Friedman, M., & Rosenman, R. *Type A behavior and your heart*. New York: Knopf, 1974.

**Betty Jean Lifton. *Twice Born: Memoirs of an Adopted Daughter*. New York: Penguin Books, 1977, 281 pages, \$2.50.**

*Reviewed by Barney Greenspan*

*Barney Greenspan received his PhD from Michigan State University in 1970. Following a two-year Postdoctoral Fellowship in Psychotherapy at the Advanced Behavioral Science Center in Grosse Pointe, Michigan, he has been Director of Psychological Services at Bellefaire Residential Treatment and*

*Child Care Center in Cleveland. He is a Diplomate in Clinical Psychology.*

Lifton scores a triumph in this feelingful and skillful depiction of what being adopted has meant to her. She provides a clear, sensitive, and brilliantly written portrait of the subtle but complicated interplay between being adopted and the rest of her life.

Being an adoptee involves a variety of unique experiences. This book is about Lifton's unique experiences which characterized her adoption. An only child, at 7 years she was told by her mother that she was adopted at age 2<sup>1</sup>/<sub>2</sub> years, and that the man and woman who bore her were dead. She was told at a time when she was quarantined due to scarlet fever. Her mother admonished her never to tell anyone about being adopted, especially her father, as mother had promised him that she would never tell her, since he wanted her to think he was her real father. Now the child was truly in quarantine, feeling both ashamed and afraid. Lifton made an important point in that her mother was not to blame, for she was the victim of a traditionless society that had provided her with no communal rite of passage for taking a stranger's baby into her home.

The adoption theme ran through her life since age 7, influencing her later development in special ways. What remained a persistent theme was the damage to her self-esteem, and often the struggle against this feeling of being damaged.

It has not been until the last 40 years that records have been sealed. The author believes that secrecy was at first rationalized as a means of hiding the shame of the child's illegitimacy. In recent years, however, it seems to have had more to do with the adoptive parents' emotional need to live as if they had produced offspring of their own.

Lifton writes of her adoption with all its nuances and shifting experiences within the family structure and within her own psychic organization. She states:

There are some who might call this an autobiography, or a psychological journey into the past. It could even be classified as a novel because most adoptees lead fictitious lives in which real names and places are changed. Some not all of the names in this book are fictitious. They have to be because that's what adoption is all about: secrets (p. 4).

For convenience sake she calls her book a "mythic tale." She writes of the adoptee as survivor, the twice-born, the chosen, the hero; as the illegitimate, the bastard, the changeling, the imposter, the double. As for the meaning of the book's title, *Twice Born*, she cites Jung, who said that the desire to be reunited with the mother is the desire to be re-

born through her. That the mother is a symbol of the unconscious to which an individual wishes to return in order to seek a solution for his/her psychic conflicts.

Lifton fought courageously against the wish that most adoptees have to deny adoption, establish a fantasied blood tie to the adoptive parents, and thereby erase the humiliation adoption implies. It appeared to me that this added piece of identity, the state of being adopted, could not easily become integrated into her personality initially because of lack of factual material about the natural parents, conflicting stories about her origin, and the quiet consensus that adoption is a forbidden subject precluding questions and feelings around the state of not knowing.

Lifton was 30 years old when she discovered that the natural parents she had been told were deceased at the time of her adoption had, in fact, been alive and still may be living. When she was feeling sorry for herself soon after hearing information from the adoption agency about her originals, she said to her husband (psychoanalyst Robert Jay Lifton) "The adopted are just accidents thrown on the wheel at the wrong time by a diabolical Potter." He replied that "I've often wondered whether born in wedlock or not. . . . But at least everyone else knows who their real parents are. . . . She argued, refusing to be fully convinced. Most people would be happy not to know (pp. 102-103)," he retorted. "The knowledge of how often people are temperamentally separated from their blood parents and reared is there, but it does not help."

In deciding to look for her natural mother, Lifton felt the threat that the only identity he did have could be taken away as fast as it was. It was at least her. After coming to know his natural mother, Lifton felt the need to must question, suffer, and become a d self rather than be a d self. She thought around her. She spent a great deal of time appointed in her mother's life, even to herself. She expected her mother would open not only her life but her home and her life. She did not expect the entrance barred, but she did expect "She had been more than a mother. . . . mother of my fantasy than as a real mother (p. 190)."

There was an abortive point in her life when she had developed a relationship with a man in restaurant and theater. She had been phobias as representative of her mother, and she had the secrets. She had been a mother, and she had the secrets. She had been a mother, and she had the secrets. By destroying her mother, she had destroyed what was most threatening to her. . . . what that guilt would be a worse burden than the



one I carried now (p. 154)."

Not being able to conceive, adoption was seriously considered. In a way she felt as if it may be something she owed to the next generation of foundlings. Then in Japan a phenologist accurately predicted she was pregnant before she even knew it by examining her face closely with a huge magnifying glass, and a few days later also accurately told her that she was carrying a boy. Whatever the mysteries of conception, she felt that her adopted country, Japan, had somehow unlocked them for her. When giving birth in a Japanese hospital she still felt like one of the creatures of the forest who go deep into hiding to deliver their litters. "For the adopted perhaps giving birth is a deed to be done in seclusion, so disconnected is the process from the rest of their lives (p. 164)."

Through the years as she corresponded and talked with other adoptees, she became more aware, and concerned, about not knowing her father. She agonized over the question of whether the adopted person belongs to the family tree she was placed on biologically or on the tree onto which she was transplanted? After a 14-year wait in her search, she found her father had died only seven months ago; he emerged as a cross between Jesse James and Don Juan, affectionately called "Boots," as he had been a bootlegger.

Loton strongly feels that all adoptees, whether they are on the same wavelength with their adoptive parents or not, suffer when they do not know the facts about their origins. She maintains that they cannot be complete human beings without these facts. Also, she is equally firm when she says, "Just as one must have the courage to find one's natural parents, one must have the courage to say goodbye, if necessary. To let go (p. 247)."

*Twice Born* is a most searching and thought-provoking book that will be of great interest to all who are interested in human problems.

Dorothy D. Nevill (Ed.), *Humanistic Psychology: New Frontiers*. New York: Gardner Press, 1977. 230 pages, \$17.50.

Reviewed by Earl X. Freed

Earl X. Freed is a clinical psychologist, a diplomate of the American Board of Professional Psychology, who is Special Assistant to the Director, Mental Health and Behavioral Sciences Service, Veterans Administration, Washington, D. C. He has conducted basic and applied research studies in alcoholism.

This text seeks to present a comprehensive view of the major areas in humanistic psychology. Its 12 chapters, all by different authors, are divided into four sections. The first section deals with definitions of psychology and attempts to interdigitate various divisions within the field of psychology. The second part focuses upon the applications of humanistic psychology in the real (social) world. The third section emphasizes humanistic interpretations of psychotherapeutic interactions and the clinical experience of depression. The final chapters deal with the key issue of research in the humanistic framework. This book is recommended for students and others who seek an overview of what humanistic psychology is all about. A fuller overview would include critical comments from other frames of reference.

In some cases, there appears to be a discontinuity from chapter to chapter. Perhaps this is due to the fact that a number of the articles originally were presentations of specialized material at a memorial conference for Sidney M. Jourard. The result is that the flow of the book is not particularly smooth and, as a consequence, it is less convincing than the authors intended. Clearly, they meant to convince. Nevertheless, there is much in this book to stimulate thinking; not the least in this regard is why today, in 1978, with the clear humanistic trends we have seen in mental health care, we still struggle to define humanism and humanistic psychology. Part of the answer undoubtedly lies in our problem solving approaches, and an excellent exposition of closed and open systems of thought appears in the opening chapter by Arthur W. Combs. He states: "We stand at a moment of choice. Two alternative ways of thinking about human problems are before us." In the field of psychology, one can seek to be humane in an approach to human problem solving but can apparently still be committed to a closed, hence narrower, system of thought. Combs convincingly advocates an open system of thought.

Theoretical underpinnings lie in research. Here, humanistic psychology has had a problem. As Lawrence A. Rosini writes in his chapter, "Humanistic psychological research is often characterized by its experiential orientation, and by its attempt to balance the behavioral emphasis which characterizes mainstream psychological research. What defines 'humanistic' research, is by no means immediately clear. Part of the problem is that there is no single experiential method, topical area of research, or common theoretical stance that can be agreed on as representing humanistic or experiential research; nor are they by any means coextensive forms."



The difficulties in researching experience and the chapter by Mary Lemkau Horn on research highlight some of the problems confronting the humanistic movement. Horn characterizes humanistic psychology as "an applied science and art form" and humanistic psychologists as "both scientists and creative artists." This may render the lessons of humanistic psychology hard to translate into practice and hard to communicate to psychologists who define themselves as other than humanistic in orientation. What may follow is that psychologists outside the humanistic movement could perceive this field of psychology as a closed system.

What the humanists talk about is very relevant to the human experience. They face what Bronfenbrenner (*American Psychologist* 32, 513-531, 1977) referred to when he wrote that "we risk being caught between a rock and a soft place. The rock is rigor, and the soft place relevance." He similarly decried research strong in social relevance but weak in scientific rigor. While psychology needs the best of both worlds, it is not immediately apparent in this text how interface and interdigitation will come about between humanistic and other psychological approaches.

**Avodah K. Offit.** *The Sexual Self*  
Philadelphia: J. B. Lippincott, 1977.  
301 pages. \$10.00.

*Reviewed by Jane Divita Woody*

Dr. Woody is an Assistant Professor of Social Work at the University of Nebraska at Omaha, where she teaches in the areas of human behavior and the social environment, mental health, and human sexuality. She holds a PhD in English and an MSW and is a member of the Academy of Certified Social Workers. She is licensed as a social worker by the State of Michigan and certified as a sex educator and therapist by the American Association of Sex Educators, Counselors, and Therapists. She is co-author (with Robert H. Woody) of *Sexual, Marital, and Family Relations* (C. C. Thomas, 1973) and *Clinical Assessment in Counseling and Psychotherapy* (Appleton-Century-Crofts, 1972). She has also authored articles on sex education.

The introduction to *Sexual Self* holds out the promise of filling a real gap in the recent literature on sexuality: "The intention of this book is to illuminate what has been so assiduously avoided in the impersonal textbooks and the sterile joy books that sex involves character and philosophy. We can tell who we are and what we believe by observing how

we act, think, dream and feel sexually. One vigorously protests, "No! But the reading leaves a stale sense of diminished human nature and sexuality. For various reasons Dr. Oltz does not fulfil the promise of effort was a variant one but it may have been expended in service of an unattainable goal."

Helping professionals, especially those specializing in sex education, and those constitute the audience most likely to be interested in the book, however, might be offended by the author's frequently condescending attitude toward the "sexual" and "sex therapists" and by the repeated and some attempts to caricature a particular sex

A brief review of the content reveals that the author's conceptual framework in psychoanalytic Part I, Binding and Release, lays the base of all scenarios of personality bonding and attachment. Part II, Personality Traits and Sexuality Behavior, presents the catalogue of personality types and their atypical variations that hold together throughout and which form the backbone of the author's account of sexual behavior. These types as discussed in Part I are not interdependent features of personality, but the compensatory passive and active sexual

paradoxical approach to the treatment of aggression and the affective disorders. Part III, "Sexual Disorders," presents a methodical but simple way to determine how each of the male disorders tends to be associated with each of the above sexual problems. Part IV, "Sexual Therapy," is primarily because of the lack of sex therapy available in the legitimate past. It is a simple, step-by-step guide to the treatment of the disorders described in Part III. The standard before and after test and related by the author and his colleagues.

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cine. Part V, "Sexuality Today," reveals more of the author's philosophic meanderings and psychiatric forays, with some sections affording interesting speculation for the leisurely reader. But as throughout, the vision remains myopic and beclouded since the author's perception is determined by the diagnostic framework of the DSM-II. Dr. Offit cannot perceive the potentialities for a healthy and enlightened sexuality to merge with the broader goals of humanistic growth and fulfillment; instead, like Jeremiah, she dwells on doom, on the ways in which the standard personality types are likely to debase themselves with the new found sexual freedom. After this final chapter, the reader can only agree with the author's own words in the "Epilogue": "Enough. This is a list of personality types, of erotic ideals as engaging and impossible as the Ten Commandments. People are rarely so categorical [sic]. Our personalities defy such convenient definition." One wishes she had earlier heeded her own advice and attempted to sketch a more human and humane portrait of the sexual self.

The book is a curious mixture of strengths and weaknesses and will likely appeal most to those with strong psychoanalytic leanings and considerable leisure to savor the author's more than occasional success in wit and style. Even so, the conscious effort at literary production becomes at times tiresome and pretentious, e.g., with neologisms such as "impotize" and "erectilities" such as "marital anatomases" and "feeling oppressed and helotized...."

Two other points reinforce the belief that the author remains tied to the umbilical cord of Freudianism pure and simple.

First, despite initially assuming a liberal stance toward homosexuality, in reality, Offit avoids the topic. Early in the book she asserts that homosexuality is neither an illness nor a personality dysfunction in and of itself. She states that if homosexuals are satisfied with their choice, they do not need help, and, if they experience disorders such as impotence or impaired orgasm, treatment proceeds as it would for heterosexuals presenting these problems. Hence her statement "It is a choice that people make much in the same way that they decide to become firemen or nurses." For purposes of this book, it must be considered that anything stated about heterosexual relations may also be true of homosexual relations. No distinctions are made because character belongs to all of us." Such a statement seems reasonable enough, but as one gets into the book, it becomes meaningless. No example of a homosexual with a sexual problem is ever mentioned, and the analyses of sexual behaviors for the various personality types are always done in the context of male-female relationships, marriage,

and primarily intercourse. The reader soon surmises that the book applies exclusively to heterosexuality, which constitutes the norm for defining the sexual self.

Second, Offit's treatment of female sexuality remains true to its Freudian derivation, and is relevant as well to homosexuality. There is a pervasive and unreserved paean to the female orgasm brought on by deep penile thrusting "into the furthest reaches" of the "eroticized vagina." While the now obsolete term "vaginal orgasm" is not used, the psychoanalytic intent is the same. How, one must ask, is this view relevant to female homosexual relations? To ask the question is to realize the incongruence between the book's exclusively heterosexual framework and the initial disclaimer that "anything stated about heterosexual relations may also be true of homosexual relations."

At its best, the book can provide a needed reminder to sex therapists that they must treat whole personalities and marital and sexual dyads rather than isolated genitalia.

**Jeffrey Lynn Prather.** *A Mere Reflection — The Psychodynamics of Black and Hispanic Psychology.* Ardmore Pa.: Dorrance and Company Inc., 1978, 167 pages, \$7.95.

*Reviewed by Claude M. Ury*

Dr. Ury has been involved in the design and analysis of instruments concerned with school programs, with a special interest in multicultural education. Furthermore, he has published numerous articles on counseling ethnic groups and has served as a consultant to several projects concerned with black mental health counseling.

Dr. Prather, an eminent black therapist, has made a brilliant analysis of the problems manifest in dealing with blacks and hispanics in psychotherapy. It is his contention that these groups have unique world-views that whites do not share. Dr. Prather has discussed in detail the mother role in minorities, the difficulty of both black and hispanic males to form relationships with other males and the distinct life styles of these groups.

Chapter I deals with interpersonal dynamics at a child care center for the purpose of clarifying the rewards and the drawbacks of a milieu therapy experience. In Chapter II, "Group Psychotherapy in the form of Play Therapy" the matriarchal structure of ghetto, black families is brought to light. "Mother of the man: Is the American male traumatized by his maternal identification" (Chapter III) provides a selective review and comments on the psycho-

dynamics involved in the rearing of the American male.

"Constant-Dissonance" (Chapter VII) is the theoretical construct devised by the author for the sake of defining and expounding upon an atypical unconscious behavior reaction due to a close-binding relationship, as in the case of a mother and her son.

"The unfound self" (Chapter XIV) deals with a side branch of the acculturation issue. This chapter specifically deals with the metaphysical question "Know then thyself." The self in relation to everyday life experiences is explored herein. Once the black or hispanic counselee becomes mindful of the coordination between his constitution and personality, he enters a state of "psyche remuneration" (Chapter XVIII), which is presented in an erudite manner to the black analyst as a unique dimension of everlasting love.

In the opinion of this reviewer we as professionals can follow the thinking of Dr. Prather if we realize that in counseling any clients there must be an element of mutual respect, mutual trust, and acceptance of one's own limitations. Any encounters with black and hispanic counselees or other minority groups must be in terms of the therapist's "eye-opening experiences" which give a fuller appraisal of the individual's life experiences and his potential for growth and development. This is a volume which should be of interest to social workers, clinical psychologists, and others who work with the disadvantaged.

**J. E. Sieber, H. F. O'Neil, Jr., & S. Tobias.** *Anxiety, Learning, and Instruction*. Hillsdale, N.J.: Lawrence Erlbaum, 1977, 262 pages, \$14.95.

Reviewed by James A. Wakefield, Jr.

Dr. Wakefield received his PhD in educational psychology from the University of Houston and completed a school psychology internship with the Houston Independent School District. He has published research in personality assessment, ability testing, and language learning. He is currently Associate Professor of Psychology at California State College, Stanislaus.

*Anxiety, Learning, and Instruction* deals with the effects of evaluative anxiety (test anxiety) in the context of computer-based instruction and techniques for reducing anxiety and improving learning in this context. While Spielberger's distinction between state and trait anxiety is mentioned frequently, no serious attempt to consider the joint effects

of state and trait anxiety on learning was included in the book. Evaluative anxiety was simply considered a particular state anxiety and its effects were considered in detail.

The book consists of three major parts that could be read independently. While there is a good deal of referring back and forth among the parts, the major theme of each part is different. The first part by Sieber deals with the development and definition of anxiety. Philosophical and scientific conceptions of anxiety are briefly mentioned. This is followed by a distinction between evaluative anxiety and general anxiety and discussions of problems in the definition of anxiety and the conception of trait anxiety. She also considers research design problems in conducting research on the effects of anxiety.

This part of the book provides a useful background in the concept for those who are unfamiliar with the concept as dealt with by philosophers and experimental psychologists. The reviewer was somewhat disturbed to find that while existential philosophers (Sartre, Kierkegaard, Heidegger), Freud, learning theorists (Hull, Spence, Taylor), theorists concerned with types of anxiety (Spielberger's state-trait distinction and Mandler & Sarason's text anxiety) were discussed as precursors or contributors to the study of anxiety, the major measurement psychologists who have dealt with anxiety or similar constructs (Cattell, Fysenck, Guilford) were not even given a footnote. This omission in a book that reports research from an attribute-treatment interaction viewpoint is serious.

The second part of the book by Tobias considers anxiety-treatment interactions. An overview of attribute-treatment interactions in general and a brief discussion of the use of regression analysis to identify the interactions is followed by a review of research on anxiety-treatment interactions. The last chapter in the book also by Tobias should have been included in part two. This chapter continues the discussion of anxiety-treatment interactions. In general these interactions are fairly difficult to establish, occurring typically in studies of long duration (seven or more lectures). The interactions that were found suggested that the effects of anxiety are mediated by difficulty of the content (with anxiety being more debilitating for more difficult content), organization (with anxiety being more debilitating for less well-organized material), and the degree to which the task depends on memory retrieval processes (with anxiety being more debilitating for tasks that place greater demands on memory).

The third part of the book by O'Neil and



associates deals with anxiety in computer-based learning environments. Considering Tobias' review, McKeachie suggested, in the introductory chapter to the book, that computer-assisted instruction and programmed learning are poor situations in which to study the effects of anxiety. These studies are typically short, removed from the interpersonal consequences of failure characteristic of classrooms, and typically employ material that is designed to be easy (i.e., produce a high proportion of correct responses), well-organized, and not too demanding on memory-retrieval processes. All these characteristics indicate that effects of anxiety should be minimal in computer-based learning environments.

In fact, this is the picture that emerges from the research in part three. Mixed or negative results are reported for the use of behavioral objectives, active responding with feedback, learner control, and computer testing to reduce test-anxiety and its effects. Care had to be taken that clients did not feel depersonalized in an automated test-anxiety-reduction program. Also, "cognitive" worry questions (concern about the consequences of performance?) were more highly related to performance in computer-based learning than were "affective" state-anxiety questions.

The three parts of this book will be useful to different audiences. The first part presents a useful overview of anxiety for students who are new to this concept, although critical omissions leave it seriously flawed. The second part presents the promising attribute-treatment interaction approach which will be useful when supplemented with Cronbach and Snow (1977) for personality researchers. The third part will appeal primarily to those concerned specifically with computer-based instruction. Unfortunately, the title, *Anxiety, Learning, and Instruction*, suggests a broader audience than the content, test anxiety and computer instruction, can reasonably be expected to serve.

#### Reference

Cronbach, L. J., & Snow, R. E. *Aptitudes and instructional methods*. New York: Irvington, 1977.

**Daniel Sinick.** *Counseling Older Persons: Careers, Retirement, Dying*. New York: Human Sciences Press, 1977, 112 pages.

Reviewed by Peter R. LeBray

Dr. LeBray received his PhD from the University of Minnesota and is currently Director, Psychology Department, Good Samaritan Hospital and Medical Center, Portland,

Oregon. He is President-elect of the Western Gerontological Society and is a consulting gerontologist.

This short text is best regarded as an introductory primer for counselors unfamiliar with human aging and important issues of later life. Rather than review or present research findings, Sinick provides a readable, general and somewhat personal essay attempting to stimulate the "perspective and expertise counselors need to serve older persons in regard to aging and dying."

The essay is well organized into five brief chapters each containing subheadings and a summary. In chapter one, the author alerts us that aging and dying are developmental processes common to young and old alike. Sinick encourages young helpers to become aware of ageist prejudices by "recognizing that youth and age are on a continuum." Career changes, retirement and death are explored in chapters two through four and comprise the core of the book. The author believes these issues occur in most adult lives in "life-span" sequence (viz., work, retire, die) and he tries to emphasize attitudes, concerns and needs of older persons in each stage pertinent to counseling. In his concluding chapter, "Trends, Issues and Recommendations," Sinick draws much on selected proceedings of White House Conferences on Aging (1961, 1971) and his own plea for ethical and humane treatment of older persons, concerns he acknowledges "have not been discussed with complete dispassion."

Besides seven pages of References, the monograph contains three Appendixes. The first is a set of readings relating to older women since their concerns are not addressed specifically in the text. Appendix 2 is a list of periodicals and Appendix 3 consists of organizations concerned with older adults with such notable omissions as Gray Panthers and Western Gerontological Society. These appended listings enable the reader to pursue resources and detailed information in relation to counseling older persons.

To critique, this reviewer finds the book lacking in three major ways: It contains nothing new; it is devoid of specifics; it is general to the point of being vague or misleading. Despite a promising title and proclamation in the Foreword that the text is a "notable contribution" meant for professionals, paraprofessionals or those "personally experiencing the difficulties of aging or the trauma of dying," this reader is disappointed with the lack of substantive content. Certainly for professionals in counseling or gerontology, the essay contains nothing new with possible exception of the author's biases.



Since adult persons of any age may experience career change, retirement or death, the reader may hope to learn from Sinick what is indeed unique or different in counseling older adults. Specific information seems lacking or obfuscated by generalization or author bias. For example, in chapter two, Sinick advises "Career counseling with older clients needs to take into account a number of special considerations." In support, he cites an outdated, 1956 list of "favorable attributes" of older workers and elsewhere begs criteria in observing, "career change is appropriate for some clients but not for others." Sinick attempts to negate the use of tests in career counseling older adults asserting, "The artificiality of tests and inventories accounts for much of their inadequacy, especially with older clients." Perhaps his own inadequacy regarding tests shows in his curious statement, "When face validity is accompanied by lack of predictive validity, other types of technical validity have little practical utility." The author concludes his discussion of career counseling with a 1971 summary of "myths and facts" relating to older workers, all positively supporting mature employees.

In chapter three, retirement is presented as a "natural period in normal life development" for which planning is crucial and about which people have both positive and negative attitudes. Sinick approaches retirement counseling as a problem juxtaposing "unproductive and useless" feelings versus creating meaningful outlets for personal energy and time. Although he acknowledges great variability among older persons, the author omits "disengagement" as an option; thus, he seems to support adherence to the "work ethic" and continued mid-life activity into retirement years. Specific "choices" he presents include: Part-time or temporary employment; unpaid or volunteer work; continuing education; avocational activities.

Despite available research showing some segments of the older population do greatly enjoy retirement, Sinick presents a rather pessimistic view opining, "recognizing that retirement is not quite death is difficult." But then, "death" is his next chapter! Under subheadings such as "other retirement difficulties" and "coping with other complexities," the author neglects another chance to be specific by commenting generally on such factors as health, housing,

income, legal, safety and social retirement concerns. These are preretirement concerns also, and what is different in later life remains unclear.

Chapter four, "Dying and Death" is perhaps the most informative and interesting section of the book. Sinick generously cites authoritative investigators such as Kubler-Ross, Weisman, Shneidman, Feifel, Kastenbaum and Grollman in discussing death by disease, suicide and bereavement. Interestingly, "clients" in previous chapters are suddenly "patients"! Although informative, the discussion would be enhanced by adding mention of the hospice concept and funeral process in relation to bereavement and survival.

Chapter four is somewhat lacking in specific characteristics or applications to older persons. For example, discussion of Robert Butler's concept of "life review" as an end stage developmental task would add much to counselors' knowledge of older persons. Several of the studies require qualification in relation to older persons. An important example is Sinick's discussion of Kubler-Ross' stages of dying where the author does not point out that these stages are based on persons of all ages in a general hospital setting; thus, not necessarily applicable to older adults in general.

The question of what special skill or expertise is needed by counselors to effectively help dying older persons is unanswered. Instead, the author advocates general counseling skills in saying, "psychological knowledge, understanding individual differences and sensitivity to interpersonal relations are at the heart of the help counselors can bring to dying patients."

To conclude, the book is brief, general, and readable. It may be most useful and stimulating to those in human services examining for the first time issues of career counseling, retirement, and dying. As supplemental reading for counseling or gerontology courses, the book has some merit. It is definitely not a comprehensive summary of available information pertinent to old age, work, retirement and death. As such, it is a primer containing little for those with gerontology training or expertise. The question of "what's different" in later life and unique in the counselor's approach to older persons remains largely unanswered.

## Books Available For Review

- Write to Book Review Editor: Dr. Max R. Reed, 6201 S.W. Capitol Highway, Portland, Oregon 97201.**
- John W. Atkinson and Joel O. Raynor. *Personality, Motivation, and Achievement*. New York: John Wiley, 1978. 242 pages, \$10.95.
- Michael J. Austin. *Professionals and Paraprofessionals*. New York: Human Sciences Press, 1978. 295 pages, \$16.95.
- Andrew Baum and Epstein M. Yakov. *Human Response to Crowding*. Hillsdale, Lawrence Erlbaum, 1978. 418 pages, \$19.95.
- Janet Beavin Bavelas. *Personality: Current Theory and Research*. Monterey: Wadsworth, 1978. 302 pages, \$10.95.
- George Becker. *The Mad Genius Controversy: A Study in the Sociology of Deviance*. Beverly Hills: Sage, 1978. 162 pages, \$14.00, hardcover; \$6.95, soft.
- Sheldon Blackman and Kenneth M. Goldstein. *Cognitive Style: Five Approaches and Relevant Research*. New York: John Wiley, 1978. 279 pages, \$16.95.
- John Bolby. *Attachment*. New York: Basic Books, 1977. 428 pages, \$4.95.
- Dudley J. Chapman. *The Sexual Equation*. New York: Philosophical Library, 1977. 434 pages, \$16.95.
- Gerard Chrzanowski. *Interpersonal Approach to Psychoanalysis*. New York: Halsted, 1977. 242 pages, \$16.95.
- Committee on Adolescence. *Power and Authority in Adolescence: The Origins and Resolutions of Intergenerational Conflict*. New York: Group for the Advancement of Psychiatry, 1978. 275 pages, \$6.50 (paperback).
- Kazimierz Dabrowski and Michael M. Piechowski. *Theory of Levels of Emotional Development: Vol. I—Multilevelness and Positive Disintegration*. New York: Dabor Science Publications, 1977. 241 pages, \$15.
- Kazimierz Dabrowski and Michael M. Piechowski. *Theory of Levels of Emotional Development: Vol. II—From Primary Integration to Self-Actualization*. New York: Dabor Science Publications, 1977. 259 pages, \$15.00.
- William D. Dannenmaier. *Mental Health: An Overview*. Chicago: Nelson-Hall, 1978. 234 pages, \$13.95.
- Valerian J. Derlega and Louis H. Janda. *Personal Adjustment: The Psychology of Everyday Life*. Morristown: General Learning Press, 1978. 629 pages, \$12.95.
- Daniel Duckman. *Negotiations—Social Psychological Perspectives*. Beverly Hills: Sage, 1977. 416 pages, \$25.00.
- Ruth Eissler, Anna Freud, Marianne Kris, Peter Neubauer, Albert Solnit. *The Psychoanalytic Study of the Child Vol. 32*. New Haven, Conn.: Yale University Press, 1977. 223 pages, \$22.50.
- John E. Exner, Jr. *The Rorschach: A Comprehensive System, Volume 2: Current Research and Advanced Interpretation*. New York: John Wiley, 1978. 442 pages, \$32.95.
- Donald Forgays. *Primary Prevention of Psychopathology Vol. II: Environmental Influences*. Hanover, N.H.: University of New England, 1978. 265 pages, \$15.00.
- James L. Fossage and Paul Olsen. *Healing: Implications and Psychotherapy*. New York: Human Sciences Press, 1978. 377 pages, \$15.95.
- Lucy Freeman. *What Do Women Want? Self Discovery Through Fantasy*. New York: Human Sciences Press, 1978. 197 pages, \$9.95.
- Erna Furman. *A Child's Parent Dies*. New Haven, Conn.: Yale University Press, 1974. 316 pages, \$17.50.
- Marianne Githens and Jewel L. Prestage (Editors). *A Portrait of Marginality*. New York: David McKay, 1977. 436 pages, \$6.95.
- Bert Arthur Goldman, John Christian Goldman. *Directory of Unpublished Experimental Mental Measures: Vol. II*. New York: Human Sciences Press, 1978. 518 pages, price unknown.
- Mary L. Gottesfeld and Mary E. Pharis. *Profiles in Social Work*. New York: Human Sciences Press, 1977. 238 pages, \$14.95.
- Lenore W. Harmon, Janice M. Birk, Laurine E. Fitzgerald, Mary Faith Tanney (Eds.). *Counseling Women*. Belmont: Wadsworth, 1978. 315 pages, \$6.95.
- Robert G. Harper, Arthur N. Wiens, Joseph D. Matarazzo (Eds.). *Nonverbal Communication: The State of the Art*. New York: John Wiley, 1978. 355 pages, \$19.95.

- Douglas H. Heath. *Maturity and Competence, A Transcultural View*. New York: Gardner, 1977. 287 pages, price unknown.
- Hubert J. M. Hermans. *Value Areas and Their Development, Theory and Method of Self-Confrontation*. Amsterdam: Swets and Zeitlinger B. V., 1976. 294 pages, Dutch Guilders 88.40.
- Michael P. Janisse. *Pupillometry—The Psychology of the Pupillary Response*. New York: Hemisphere, 1977. 204 pages, \$22.50.
- Virginia E. Johnson, Robert Kolodny, William Masters. *Ethical Issues in Sex Therapy and Research*. Boston: Little, Brown and Co., 1977. 219 pages, price unknown.
- Brian G. Jones, Charles Dayton, H. B. Gelatt. *New Methods for Delivering Human Services*. New York: Human Sciences Press, 1977. 140 pages, \$10.95.
- Mark Kammerman. *Sensory Isolation and Personality Change*. Springfield: Charles C. Thomas, 1977. 310 pages, \$12.75.
- Francis J. Keefe, Steven A. Kopel, Steven B. Gordon. *A Practical Guide to Behavioral Assessment*. New York: Springer, 1978. 212 pages, \$13.95.
- Harold H. Kelley, John W. Thibaut. *Interpersonal Relations: A Theory of Interdependence*. New York: John Wiley, 1978. 341 pages, \$18.95.
- Suzanne, J. Kessler, Wendy McKenna. *Gender: An Ethnomethodological Approach*. New York: John Wiley, 1978. 233 pages, \$16.95.
- Donald C. Klein. *Psychology of the Planned Community: The New Town Experience*. Community Psychology Series, Volume 4. American Psychological Association, Division 27. New York: Human Sciences Press, 1978. 182 pages, \$11.95.
- Eric Klinger. *Meaning and Void*. Minneapolis: University of Minneapolis Press, 1977. 412 pages, \$16.50.
- Rueven Kohen-Raz. *Psychobiological Aspects of Cognitive Growth*. New York: Academic Press, 1977. 127 pages, \$11.00.
- Jon E. Krapfl and Ernest A. Vargas (Editors). *Behaviorism and Ethics*. Kalamazoo: Behaviordelia, 1977. 240 pages, \$12.95.
- Jackie Lamb and Wesley Lamb. *Parent Education and Elementary Counseling*. New York: Human Sciences Press, 1977. 143 pages, \$9.95.
- Ralph LaRossa. *Conflict and Power in Marriage—Expecting the First Child*. Beverly Hills: Sage, 1977. 169 pages, \$14.00 hardcover; \$6.95 soft.
- Bendam A. Maher, (Ed.). *Progress in Experimental Research*. New York: Academic Press, 1978. 344 pages, price unknown.
- Alfred J. Marrow. *The Practical Theorist, The Life and Work of Kurt Lewin*. New York: Teachers College Press, Columbia University, 1977. 290 pages, price unknown.
- Mary Ann Mattoon. *Applied Dream Analysis: A Jungian Approach*. New York: John Wiley, 1978. 253 pages, \$12.50.
- John Meerbach. *The Career Resource Center*. New York: Human Sciences Press, 1978. 157 pages, \$12.95.
- John B. Miner. *Motivation to Manage, A Ten Year Update on the "Studies in Management Education" Research*. Atlanta, 1977. 248 pages, price unknown.
- Monique V. G. Morval. *Le T.A.T. et Les Fonctions Du Moi Propeduetique A L'Usage Du Psychologue Clinicien*. Montreal: Les Presses De L'Universite De Montreal, 1977. 168 pages, \$7.50.
- Louis Barclay Murphy, Alice E. Moriarty. *Vulnerability, Coping, and Growth: From Infancy to Adolescence*. New Haven, Conn.: Yale University Press, 1976. 460 pages, \$20.00.
- Bernard I. Murstein. *Exploring Intimate Life Styles*. New York: Springer, 1978. 302 pages, \$18.95, cloth; \$11.95, paperback.
- Louis Ormont, Herbert Stean. *The Practice of Conjoint Therapy*. New York: Human Sciences Press, 1978. 231 pages.
- N. R. W. Pande. *A Study of Intelligence Test Scores of Candidates at the Services Selection Boards*. New Delhi: Controller of Publications, 1977. 196 pages, \$1.52.
- Rolland S. Parker. *Effective Decisions & Emotional Fulfillment, A Guide to Making the Right Choices for Success in Life*. Chicago: Nelson-Hall, 1977. 290 pages, \$11.95.
- Rolland S. Parker. *Living Single Successfully*. New York: Grolier, 1978. 192 pages, \$8.95.
- Rolland S. Parker. *Emotional Common Sense*. New York: Barnes and Nobel Books, 1973. 219 pages, \$2.95, softcover.
- Rolland S. Parker. *Psychology and Counseling Careers*. New York: Rolland S. Parker, 66 pages, price unknown.
- David K. Reynolds and Norman L. Farberow. *Endangered Hope*. Berkeley and Los Angeles: University of California Press, 1977. 184 pages, \$10.95.
- David K. Reynolds and Norman L. Farberow. *Endangered Hope Experiences in Psychiatric Aftercare Facilities*. Berkeley Uni-



- versity of California Press, 1977. 184 pages, \$10.95.
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